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SECRETARY

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The Yearbook has been prepared under the general supervision of a committee consisting of Dr. O. E. Baker, Dr. F. A. Pearson, and Dr. L. C. Gray, of the Bureau of Agricultural Economics, in collaboration with other persons whose names appear in connection with the articles included in the book. Dr. O. E. Baker served as editorial secretary.

FOREWORD.

When the present administration came into office in the spring of 1921 the agriculture of the United States was experiencing a severe economic depression. In view of this it was determined to devote the available space in the Yearbooks to a consideration of the economic situation as it affected the farmer, and to present careful studies of the principal crops, both as to production and profitable marketing.

The first of this series of Yearbooks was that of 1921, which dealt with wheat, corn, beef, and cotton, and provided a graphic summary of agricultural production as shown by the 1920 Census. The Yearbook for 1922, following the same plan, contained comprehensive studies of conditions affecting hogs, dairy products, tobacco, small grains other than wheat, and forestry.

This volume contains similar studies as to sugar, the sheep industry, our forage resources, the utilization of land for crops, pasture, and forests, and the economic aspects of land tenure, prefaced by the annual report of the Secretary dealing with the agricultural situation in a general way and with some of the regular work of the department. Included in the present volume is the special report on the wheat situation made to the President November 30, 1923. These articles are followed by the statistical portion which has again been enlarged to include important additional material, particularly on livestock production, fertilizer production and consumption, forestry, and domestic and foreign prices of farm products.

It is evident that the agriculture of the country is undergoing important changes. The lower returns to agricultural workers as compared with workers in other fields of endeavor are compelling important readjustments. It is hoped that these systematic studies of the economic aspects of some of the more important lines of agricultural industry will be helpful in the formulation of an adequate agricultural policy to the end that the farmer may once more get his fair share of the national income and continue to feed our people at reasonable prices.

Studies such as are presented in this and the two preceding volumes are to be continued in the Yearbook of 1924.

HENRY C. WALLACE,
Secretary of Agriculture.

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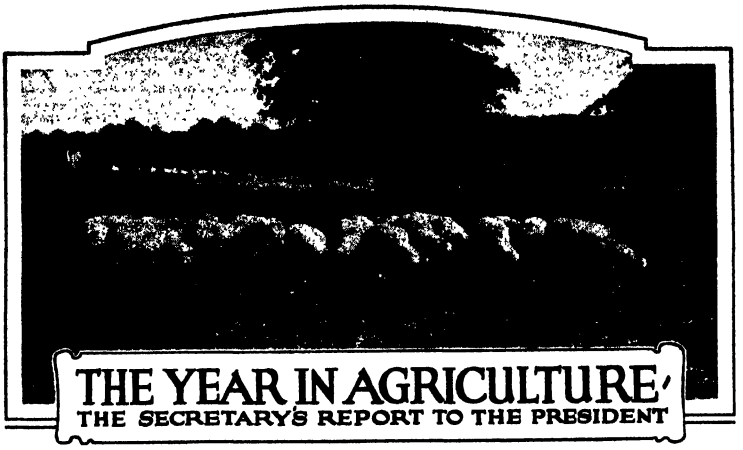


THE YEAR IN AGRICULTURE

THE SECRETARY'S REPORT TO THE PRESIDENT

WASHINGTON, D. C., *November 15, 1923.*

To the PRESIDENT:

It is a satisfaction to be able to record marked improvement in agriculture during the past year. Prices of many agricultural crops are higher. Cost of production has been lower, and there has been some reduction in prices of the things farmers buy.

In 1923 farmers planted 341,000,000 acres of the 14 principal crops. This was an increase of more than 2,000,000 acres over 1922. The production of these 14 crops is estimated to aggregate 265,000,000 tons, which is about the same as in 1922 and 11,000,000 tons greater than the 10-year average.

Taking the value of the 11 crops—corns, wheat, oats, barley, rye, buckwheat, flaxseed, potatoes, sweet potatoes, hay, and cotton—as of October 1, except in the case of corn (which is taken at the December future prices as recorded for the first 15 days of October), we find that this value was $5,289,000,000 for 1921, $5,711,000,000 for 1922, and $6,947,000,000 for 1923. In neither year does the sum indicated include the total value of farm crops grown, but for comparative purposes the values of these 11 crops for the years mentioned indicate the substantial increase in the money received by farmers in 1923 as compared with 1922 and 1921.

Not only will the total general farm income be considerably greater for the year 1923, but this income will buy relatively more of the things farmers need than for some years past. The purchasing power is greater. Hence farmers generally are better off both actually and relatively, and this is reflected in their increased purchases, which in turn has helped general business. The farm productive plant has seriously depreciated during the past six years, first because of war conditions and later because of forced economies. As the farm income increases, therefore, farmers will buy more and more freely of the things they need.

The Crops of the Year.

The wheat crop for 1923 is estimated at 782,000,000 bushels, compared with 815,000,000 bushels in 1921 and 862,000,000 bushels in

1922. The quality of wheat this year is somewhat below the average, owing to weather conditions and the ravages of plant diseases.

The corn crop is estimated at 3,021,000,000 bushels, as compared with 3,069,000,000 bushels in 1921 and 2,891,000,000 in 1922. The quality of corn in some regions has been materially injured by early frosts.

The cotton crop gives promise of being a half million bales greater than that of last year, the October 25 estimate being 10,248,000 bales, compared with 7,954,000 bales in 1921 and 9,672,000 bales in 1922. The cotton acreage was larger this year than last, and the cotton production would have been appreciably above the October estimate had it not been for unfavorable weather and heavy rains, exceptional damage to grown bolls by the weevil, and the heaviest abandonment on record.

An estimate based upon the first nine months of the present year indicates a slight increase in the number of cattle and calves slaughtered, and that a total of perhaps 78,000,000 hogs will be slaughtered in 1923, compared with 62,000,000 in 1921 and 67,000,000 in 1922.

VALUE OF ALL CROPS IN THE UNITED STATES, 1919–1923.

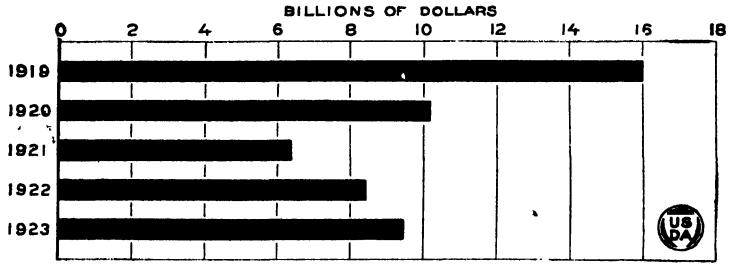


FIG. 1.—Heavy production combined with war prices raised the value of all crops produced in the United States to over $16,000,000,000. Low prices, with an average crop, reduced the total value of all crops in 1921 to less than six and a half billion dollars. Prices of some crops have shown a gradual increase since 1921, with a consequent increase in total value of all crops.

In some lines of production prices have been fairly satisfactory, while in other lines low prices have added to the accumulating financial difficulties of the farmers.

The farm price of wool is more than twice the pre-war level. The farm price of wool in August, 1921, was but 15.4 cents per pound and in September, 1923, was 37.1 cents. The reduction in the number of sheep, the diminution of stocks of wool and woolen goods during the post-war adustment, and last, but not the least, the resumption of a protective tariff have stimulated prices of wool.

Cotton prices continue at a relatively high level. The farm price is now two and a quarter times the pre-war level. The huge surplus of cotton which was carried over at the end of the crop year, July 31, 1921, has been reduced to a point verging upon an actual shortage and the quantity carried into the new season was the smallest in a number of years. The world consumption of American cotton during the year (1922–23) was over 12,500,000 bales and American production was less than 10,000,000 bales. The present status of the cotton farmer is not always fully understood. The planter is interested in the price and purchasing power of cotton per pound,

but he is more interested in the returns per acre. The ravages of the boll weevil have reduced the production of cotton per acre sufficiently to discount to some extent the high prices paid for cotton. Elsewhere in this report reference is made to control measures of this pest. The purchasing power of cotton per acre, which is above the pre-war average, is a better index of the southern planter's economic condition than the present high price of cotton. Districts in the south with a fair yield are in a splendid condition. On the other hand, districts like southern Georgia, suffering severely from the boll weevil, are in dire straits.

The prices of dairy products did not suffer so much from the drastic deflation following the post-war period as did other farm products. Butter, cheese, and milk have sold at prices remunerative to farmers. Butter is now higher than the general price level. Cheap feed in western butter districts, and high prices and some curtailment of production in milk districts have enabled the dairy farmer to weather the storm with less adversity than those farmers

FARM PRICES OF WOOL AND COTTON COMPARED WITH THE GENERAL LEVEL OF FARM PRICES.

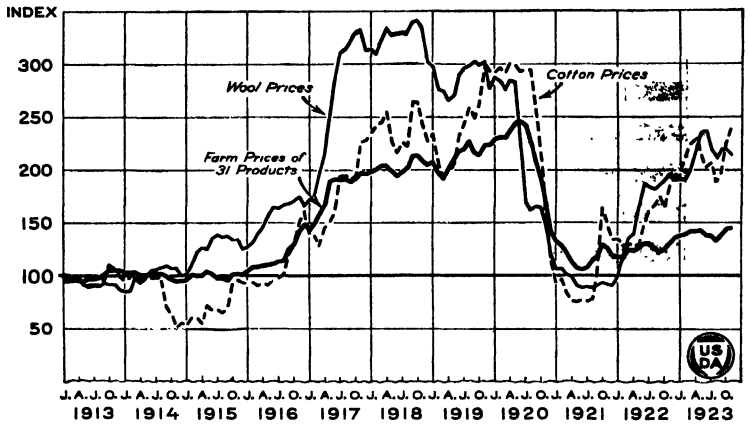


FIG. 2.—During the World War cotton and wool sold for relatively more than most other farm products. Although cotton and wool prices experienced an unprecedented decline in 1920, they recovered in 1922 and 1923, and are now well above the general level of farm prices.

producing commodities a part of which must be exported. Poultry and eggs have also continued on a fairly profitable basis.

Besides wool, cotton, chickens, and butter previously mentioned, beans, apples, broomcorn, cabbage, onions, cottonseed, and lambs are higher than the general price level.

Horses rye, barley, timothy seed, oats, hogs, wheat, hay, veal calves, beef cattle, milk cows, corn, clover seed, buckwheat, sweet potatoes, flaxseed, and potatoes are still below the general price level, but many of these products have experienced appreciable advances in price this past year. Flax rose from $1.88 in 1922 to $2.12 in 1923. Oats rose from 34.5 cents to 38.6 cents. Hay from $10.58 to $12.42. Milk cows, $51.62 to $56.13. During no month of 1922 did veal calves sell for as much as in September, 1923.

Corn prices have had a very appreciable advance during the past year. The low receipts at primary markets and the low visible sup-

ply of corn have resulted in rising prices despite the large farm stocks and heavy production during the three years 1920–1922. Corn prices advanced from 61.6 cents for October, 1922, to 85.7 cents in 1923. If all corn could be sold at this price the corn farmer would find himself in a relatively fortunate position, but since it is the demand for corn to finish the large numbers of hogs in preparation for the market that creates the relative shortage of corn and makes this price possible, and since not over 20 per cent of the crop will be sold as corn, prices of hogs must always be considered in connection with prices of corn. The past year was characterized by enormous increases in hog production, marketing, and slaughter, and by large increases in domestic consumption and foreign trade in lard and pork.

FARM PRICES OF BEEF, HOGS, AND HORSES COMPARED WITH THE GENERAL LEVEL OF FARM PRICES.

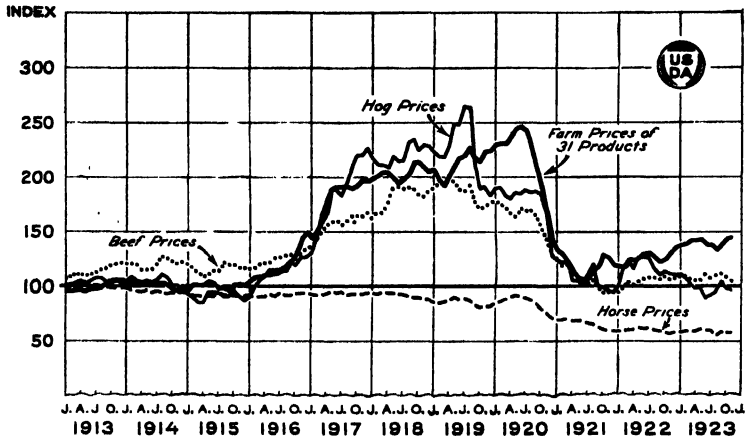


FIG. 3.—Hogs, horses, and beef have been very cheap compared with other farm products. The price of horses has declined steadily since 1913.

The liquidation in the industry that followed the decline in the price of hogs reduced our hog population to a very low point, and this reduction was immediately followed by three bumper corn crops in succession. This resulted in a surplus of corn and a deficiency in hogs and the hog-corn ratio was the highest in many years. As usually occurs after a period of large corn crops, hog production was given a great impetus, and the marketing of hogs for the year ending June 30, 1923, exceeded that for the preceding year by more than 9,000,000 head. As a consequence, hog prices receded sharply and corn fed to hogs is now bringing lower prices than corn sold on the market.

Bad Wheat Situation.

The discouraging wheat situation is due in part to increased acreage in response to patriotic appeals and the extraordinary demands for wheat by the war administration. By similar appeals the war administration reduced bread consumption in the homes and took it

off the restaurant table. This has definitely reduced the per capita consumption. The evil results of these policies continue. The world wheat production is too great in proportion to the restricted consumption. The great wheat producing areas in the United States, Canada, Argentina, and Australia increased their annual exports 336,000,000 bushels. At the present time the exports of wheat from these countries are more than twice their pre-war exports and more than compensate the former exports from Russia and the Danube Basin and the decreased Indian exports.

War has had a marked effect upon the bread grain consumption of some European countries as well as of the United States. The standard of living in some countries has been lowered and cheaper foods substituted for wheat. Wheat has been conserved by "long milling," mixing, and by feeding less to livestock. The per capita consumption of wheat in the United Kingdom has remained remarkably constant during the last 14 years, but declined slightly during the war. In France per capita wheat consumption, including seed, was reduced from an average of 9.3 bushels during the period 1909–1913 to an average of 7.4 bushels during the war period of 1914–1918. Since then the average has increased to 7.7 bushels. Milling restrictions requiring the mixing of from 8 to 10 per cent of substitutes with wheat flour are still in force. The per capita supply of bread grains has also been considerably below normal in Germany and Austria. Thus in selling their surplus wheat the farmers of the United States have to meet increasingly keen competition in a foreign market where the demand has declined.

Cattle and Sheep.

The 640-acres-grazing homestead act and tariff reduction on wool some years ago depleted the number of sheep on the ranges and stimulated cattle production. The pre-war price of range cattle was $6.74. In 1922 the price was $6.60. The war stimulation of the range-cattle industry and the consequent advance in cattle values led many producers of range cattle to overextend themselves and make large use of their credit, which was easy at that time. The shrink in values since, combined with unfavorable weather conditions in some sections, have resulted in severe financial losses. As a result throughout the range country liquidation has been and still is being forced, and large numbers of cattle, cows as well as steers, have been thrown on the market at ruinous prices. Loans on cows are being called and new loans on cows very generally refused. This forces too many cows on the market now and tends toward a shortage later.

On the other hand, cattle feeders who finish on grain for market have fared very well during the past year. Prior to the war cattle ranging in weight from 1,200 to 1,350 pounds were about 17 per cent above the price of range cattle. In 1922 cattle of this weight sold about 36 per cent above the price of range cattle. In 1922 good to prime cattle were about 50 per cent above the price of feeder steers, while in September, 1923, they ranged to about 70 per cent above. The high industrial activity has given a good market for good beef and has stimulated a demand for the higher grades of cattle which come finished from the feed lots of the Corn Belt.

State of Agriculture in General.

The general agricultural improvement noted is most gratifying to everybody and gives renewed hope to millions of farmers who have struggled against most distressing conditions. This does not warrant the assumption, however, that the state of agriculture in all sections is now satisfactory, viewed either from the standpoint of the farmer or from the standpoint of national interest. In many regions agriculture still is at a disadvantage. The adverse influences of which mention was made in my report of a year ago still exist, though less powerful than at that time. The ratio between prices of most farm products and prices of other commodities is still far out of line. Industrial wages continue at war-time levels and thus help to maintain high prices for most of the things the farmer buys.

COMPARISON OF FARM AND CITY WAGES.

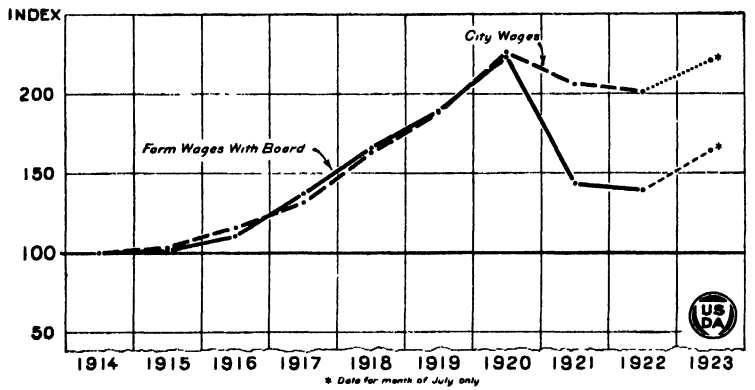


FIG. 4.—During 1920 farm wages with board were $46.89, or 223 per cent of the 1914 level, while New York factory wages were 226 per cent. During the agricultural depression farm wages dropped to 139 per cent of the 1914 wages, while city wages fell to only 201 per cent. During 1921, 1922, and 1923 the disparity between farm and city wages was remarkably uniform.

High freight rates still prevail, and, while not the cause of low farm prices, place one more additional burden upon the farmer which he can ill afford to pay in view of the prices he must take for his products; also they place him at a disadvantage with his foreign competitors in world markets in the case of those farm products which we export. Unfavorable exchange rates with European countries, together with financial difficulties in those countries which need our surplus, make it more difficult for them to buy, and our export outlet for farm commodities is narrowing. Aside from this difficulty, it is to be expected that as the countries of Europe get on their feet, they will strive to produce more of the things they need and buy less from us, and this must be considered in planning our own production. The costs of retail distribution of farm products are unreasonably large, thus enhancing the price to the consumer and depriving the farmer of the benefit of increased consumption which ought to follow lower prices which result from large production.

Studies by this department indicate that 42 per cent of the farmers feel that their financial difficulties are due to low prices of farm

products; to high taxes, 17 per cent; high costs for farm labor, 11 per cent; high freight rates, 10 per cent; high interest, 10 per cent: reckless expenditures during boom period, 6 per cent; and too much credit, 4 per cent.

Too frequently persons who have not inquired into the matter express the opinion that the farmers' difficulties are due to reckless expenditures for land, speculative securities, and other purposes during the flush years. The percentage who suffered in this way, however, does not seem to be very large. The farmers' troubles are due primarily to the low prices of their farm products and the high prices for the services and articles they must buy.

PRIMARY FACTORS AFFECTING FINANCIAL DIFFICULTIES OF THE FARMER.

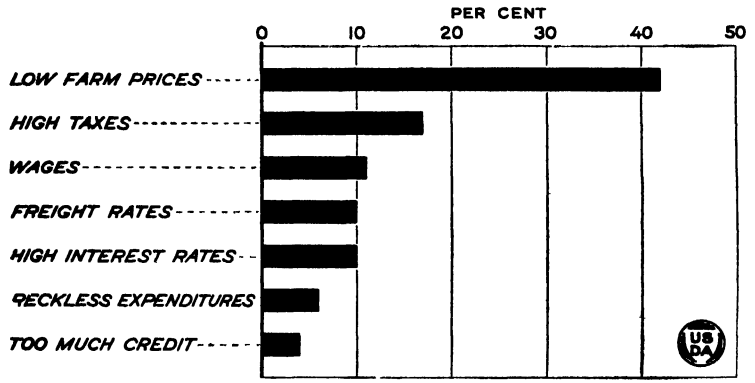


FIG. 5.—It is the opinion of farmers, based on reports received directly from them, that low farm prices is the dominant factor in the present depressed state of agriculture.

Taxes and Interest.

In addition to the handicaps just mentioned there is underlying this agricultural situation the fundamental factor of the lowered price level which has shrunk the purchasing power of the farmer's income. Economic justice would require that the price level during the years when the debtor is paying individual and public debts should be as high as when these debts were incurred, thus making it possible for him to meet his fixed payments of taxes, interest, and principal with about the quantity of labor or the products of labor required to meet them at the time the debts were incurred. This is not the case now with the farmer. It is not possible to adjust the price level with that nicety which will do justice to everyone, but in so far as it is possible it should be done. Our investigations lead us to estimate the property taxes and interest combined paid by agriculture in the year of 1920 at about $1,457,000,000; in 1921 at $1,684,000,000; and in 1922 at $1,749,000,000.

In 1920 practically the entire value of the wheat and tobacco crops, or about two-thirds of the wheat and cotton crops, were required to pay property taxes and interest charges. This was during the period of high prices and lagging charges for taxes and interest.

In 1921 property taxes and interest were equal to the entire value of the wheat, oats, potato, and tobacco crops. The wheat and cotton

crops combined would pay but five-sixths of the taxes and interest. This was during the period of low prices and rising charges for taxes and interest.

In 1922 the value of the wheat, oats, and tobacco crops, and one-half of the potato crop, were required to pay taxes and interest. In that year although cotton was very high in price, taxes and interest charges were equivalent to the entire value of the cotton crop plus two-thirds of the wheat crop. Property taxes increased from $532,000,000 in 1920 to $797,000,000 in 1922.

Unfortunately reliable estimates of taxes and interest charges are not available for the pre-war years. It is estimated, however, that property taxes alone in 1914 aggregated about $344,000,000, which was equivalent to less than two-fifths of the 1914 wheat crop, while in 1922 taxes totaled $797,000,000, which was approximately equiva-

GENERAL PROPERTY TAXES PAID BY FARMERS, 1914–1923.

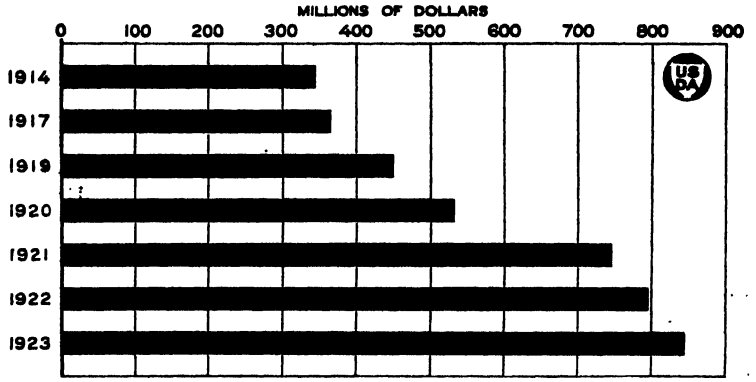


FIG. 6.—Property taxes paid by farmers doubled from 1917 to 1923. The marked increase in taxes which occurred immediately after the war was due to the adjustment of local and State governmental costs to the new price level, as well as to a material expansion in public improvements, which had been postponed during the war, or were initiated early in the post-war period, when high prices and a spirit of optimism generally prevailed.

lent to the total value of the 1921 or the 1922 wheat crops. The wheat crop is approximately equal to the pre-war value, but taxes have more than doubled. It should be kept in mind that the increase in taxes is due to local and State governments, not Federal.

Under such a situation farmers who are out of debt can get along fairly well, but those who are heavily in debt, and especially those young farmers who have not become thoroughly established, are having great difficulty in meeting interest and principal on public and private debts.

It would seem to be distinctly in the public interest that the price level during these years when we are working out of war difficulties be maintained at from 60 to 70 per cent above the pre-war level. Just as sound money requires a gold basis, so sound business requires an equitable and stable price level.

Rural Population Influenced.

The result of the conditions which have prevailed during these years of agricultural deflation is reflected in the steady drift from

the farms to the towns. Our estimates indicate that the net change in population from the farm to the town in 1922 was around 1,200,000. This drift is taking place not alone in those sections where agricultural depression is being felt most keenly just now but throughout the country. This is illustrated in a number of ways. For example, 4.7 per cent of the habitable farmhouses were vacant in 1920; 5.7 per cent in 1921; and 7.3 per cent in 1922. A recent study indicates that in 1922 farmers occupied 86.3 per cent of the habitable farmhouses as compared with 88.4 per cent in 1921 and 89.7 per cent in 1920. Because of the scarcity of houses available for them nearer their work, many farmhouses within reasonable distances of cities are being occupied by people who work in the cities.

In Michigan a special survey made this summer covering a large number of farms indicates that fully 10 per cent of these farms were vacant, and about 13 per cent more were only partially worked. This survey also showed that there were also 16 per cent fewer workers on the farms in Michigan than a year ago and that 91 per cent of those leaving the farms did so to better their financial condition, 6 per cent because of old age, and 3 per cent because of other causes.

During the year ending February, 1920, it is estimated that 22,000 workers net left the New York farms; in 1921, 24,000 net. For the year ending February, 1922, this number had decreased to 3,000, the explanation being that the unemployment in the cities during 1921 caused many persons to move to the farms. For the year ending February 1, 1923, this movement had swung back, and the net movement to the cities was 26,000. It is reasonable to believe that a similar movement from the farms to the cities is general throughout the country, although reliable figures such as have been quoted with reference to New York are not available for other States. Perhaps the movement has not been so large in some other States as in Michigan and New York, which are so highly industrial.

Financial Difficulties.

This year the Department of Agriculture instituted an inquiry through both bankers and farmers as to the number of farm owners and farm tenants who lost their farms or property through foreclosure or voluntary relinquishment.

It was found that of the owner farmers in 15 corn and wheat producing States on an average almost 4 per cent had lost their farms through foreclosure or bankruptcy, while nearly 4.5 per cent had turned over their farms to creditors without legal process, making a total of about 8.5 per cent who had lost their farms with or without legal proceedings. In addition, about 14.5 per cent were in fact bankrupt, but were holding on through leniency of their creditors. Considered by groups of States, the percentage of owner farmers who lost their farms since 1920 was found to be as follows: For 5 east North Central States, nearly 6 per cent; for 7 west North Central States, nearly 9 per cent; and for 3 Rocky Mountain States, over 20 per cent. The percentage of tenants who lost their property ran materially higher.

The records of the Department of Justice indicate that in the prewar years 5 per cent of all bankruptcy cases were farmers, but in

1922 it had grown to 14 per cent. In some of these States, where in pre-war years the farmers' bankruptcy cases represented about 7 per cent of all such cases, this percentage in 1922 had risen to nearly 30.

These losses have not been due to inefficiency on the part of the farmers. Practically all of them were incurred by men who had been doing fairly well until they entered the period of drastic deflation. Some few were caused by overexpansion in the purchase of land during the period of high prices. In general, however, the trouble has been due to the deflation in prices of farm products and the increased cost of production and of the necessaries farmers must buy.

BANKRUPTCIES AMONG FARMERS. PERCENTAGE OF ALL BANKRUPTCIES, 1910–1923.

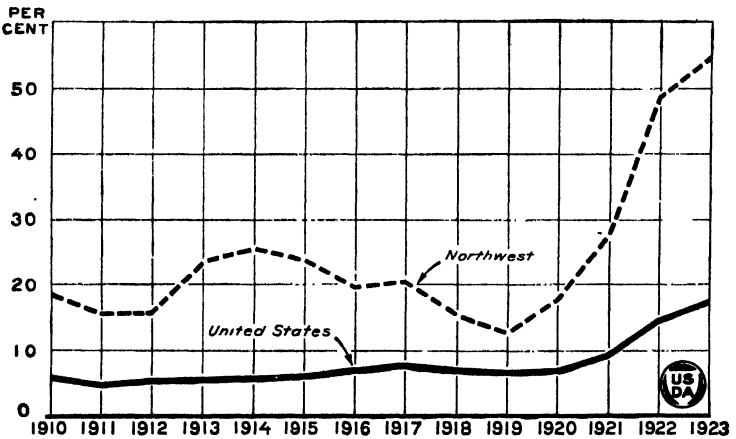


FIG. 7.—Between 1910 and 1920 the relative number of bankruptcies among farmers remained fairly constant. Since 1920 there has been a marked increase in farm failures, especially in the spring wheat region, where the percentage of farm to total bankruptcy cases rose from about 18 per cent in the fiscal year 1920 to 54 per cent in 1923. The situation is only partially reflected in these figures, since farmers as a rule do not resort to the bankruptcy courts when surrendering property to creditors.

The Drift to the Cities.

This drift from the farms to the cities is due in part to inability to make a decent living on the farm and in part to the fact that the Nation has been willing to pay higher wages relatively for workers in the industries of various sorts than for workers who are producing food. As long as the unfavorable ratio between agriculture and urban occupations continues an abnormal movement from the farms is not only to be expected but desired. It is one of the ways by which normal balance between agriculture and industry in time may be restored.

From the national viewpoint, however, this movement is to be deplored both because of the conditions which seem to make it necessary and because it is draining from the country such a large percentage of the more intelligent and ambitious young farmers. Agriculture always produces a large surplus population, and under normal conditions feeds into the cities large numbers of the less

intelligent, who because of this are not well adapted to modern farming, which requires intelligence of a high order, but are better off in the cities which provide them supervised work. It also sends many young men of superior intelligence who seek wider opportunities than exist in the country. In the past both classes have gone to the cities without detriment to either the urban centers or the open country, but conditions which have prevailed for the past three or four years have made drafts upon the best the country produces altogether heavier than is good for either the country or the Nation.

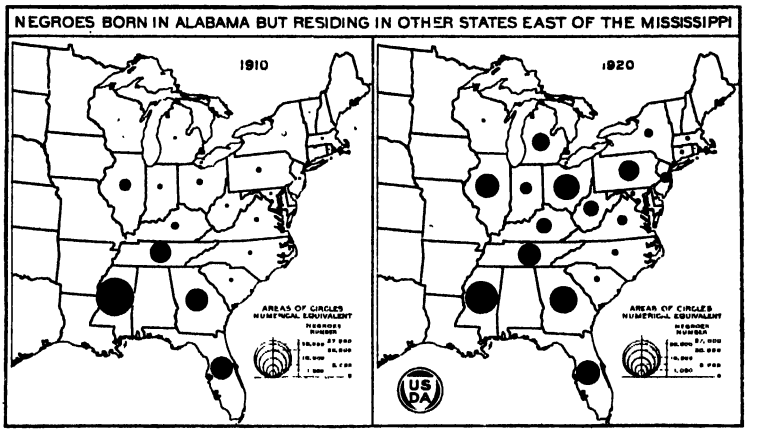


FIG. 8. In 1910 the Negro migrants born in Alabama moved largely to adjacent Southern States. In 1920 the direction of migration had changed and the Negroes born in Alabama migrated to northern industrial States east of the Mississippi.

Decline in Morale.

The Nation has suffered in another way. The drastic economies which have become necessary on the farms have greatly reduced farm standards of living. They have compelled overwork by the farmers, unaccustomed farm work by farm mothers, increased work by children kept out of school—in too many cases the older children taken out for good. Continued disappointment on the part of all members of the family, worry and discouragement, added to privations, have resulted in the breaking up of many a home. Retrenchment in support of school and church and restricted recreation and public entertainment became necessary. The farm population of the Nation, although less than 30 per cent of the total, is carrying more than 35 per cent of the child population. The farm is charged with the duty of educating this excess of youth and turning it over to the cities at the producing age. During this period of depression both the children who are to remain on the farms and those who are to be turned over to the cities have been deprived to too great an extent of the spiritual and mental training which is so necessary to make them citizens of the right sort.

The Nation has suffered equally in depressed morale. There has been no satisfaction in the minds of the farmer or in the minds of

the city dwellers over this agricultural depression. The farmer has no challenge to heroism. The farm wife has no glory in her sacrifice and disappointment and long days of toil. The result has been a social and political unrest which has not contributed to national welfare. The undeserved fate and the powerlessness to pull out of difficulties has lessened hope and developed an unrest which will be felt for a long time. The farmer does not wish to complain, but he is driven to it; and at the same time he resents the condition which makes it necessary to complain.

Improvement and Some Reasons for it.

In speaking thus briefly of some of the adverse conditions, it is not with the purpose of painting a dismal picture but solely with the thought that a bad condition can not be corrected unless it is understood. As I said in the beginning, the agricultural situation to-day is very much better than a year ago, while the advance made over the terribly discouraging conditions which were precipitated in 1920 and reached the climax in 1921 is nothing short of remarkable. In general there has been steady improvement since the low point in 1921.

No small part of this improvement must be credited to wise legislation and to helpful administration. Agriculture and the needs of the farmer have received more thoughtful and sympathetic consideration by legislative and administrative agencies during the past two and a half years than at any previous period in our history. It is not out of place here again to refer to some of this legislation.

The emergency tariff, enacted promptly in 1921, checked the dumping on our markets of surplus agricultural products which had accumulated in other countries.

The provisions for emergency credit which was made available through banks and cooperative associations saved large numbers of them and their farmer patrons from bankruptcy.

The extension of Government supervision over the livestock markets and market agencies has resulted in putting a stop to innumerable unfair practices, has given assurance of open and competitive markets, and gives opportunity to make a thorough study of the packing and distribution of meats.

The law which brings the grain future trading markets under Government supervision has afforded an opportunity for an investigation and study of these markets which in time should lead to beneficial results.

Cooperative marketing associations have been given protection from unjust prosecution and encouraged to function freely, with the view to enabling their members to reduce marketing costs and market their crops in an orderly manner.

The agricultural credits act enables the Federal reserve system to handle agricultural paper for longer time, increases the amount which may be loaned on farm mortgage to the individual farmer, and provides a system of intermediate credit especially adapted to farm needs. This act when under full operation should not only vastly improve farm credit facilities but materially reduce interest rates.

These and other laws of real but lesser importance than the ones mentioned have been very helpful in improving agricultural conditions. Those who may have hoped that the depression could be turned all at once into a period of prosperity by some sort of legislative magic have perhaps been disappointed, but those who realized that our difficulties grew out of the period of disorganization resulting from the terrible World War have been able to note beneficial results from this legislation.

All the administrative agencies of the Government have been at work with vigor and good judgment to help overcome the farm troubles, through enlarging consumption at home, extending abroad the markets for the farm surplus, promoting the readjustment of production so far as practicable, gathering and making known information concerning world consumption and production, and in innumerable other ways which it is not necessary to set forth here but which will be dealt with later in this report.

PER CENT OF FARM AND URBAN POPULATION IN SPECIFIED AGE GROUPS, 1920.

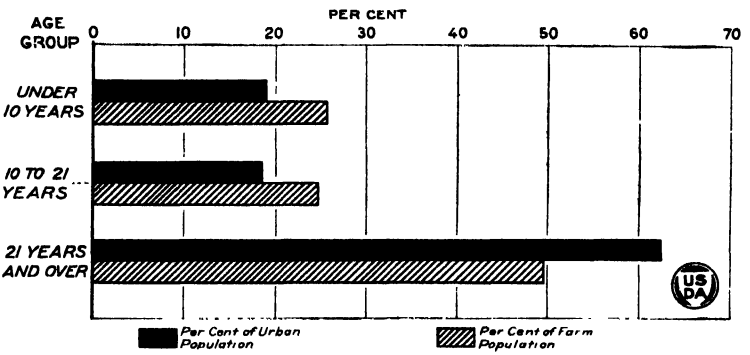


FIG. 9.—The farm has a surplus of nonproducers or partial producers of approximately 4,000,000 under 21 years of age as compared with an equivalent urban population. This surplus population, reared and educated in the country, is turned over to the cities as producers.

Need of Further Improvement.

Notwithstanding the progress made toward better times, and notwithstanding all that has been done so well by both legislative and administrative agencies, it ought to be understood clearly that there is still room for much improvement in the state of agriculture and that we can not reasonably expect to attain to that condition of national prosperity for which we hope so earnestly until the farm group, which comprises about 30 per cent of our total population, gets its fair share of the national income and is able to sell the products of its labor at prices fairly relative to prices of what it buys. Industry, commerce, and industrial labor may prosper for a time at the expense of agriculture, as indeed they have during the past three years, but the longer that continues the more hurtful to the Nation will be the results. The truth of the statement that in the United States national prosperity must rest on a sound and prosperous agriculture stands unchallenged.

Producers of those crops which are practically all consumed at home are in the main finding themselves able to make such readjustments as are necessary to meet changing markets and prices and are doing so with a courage that commands admiration. In the case of some crops time will be required to make these readjustments, especially in regions remote from markets which were brought under production because of favorable freight rates covering long distances. The advance in freight rates has worked great hardship in some of these regions, and if maintained will make necessary a change of markets or of crops. By and large, however, growers of home-consumed crops will gradually adapt themselves to changed conditions, even though at considerable loss.

The case is very different, however, with producers of those crops of which we export a considerable surplus and the price of which is largely influenced by large exports from competing countries

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS IN IOWA AND NEW YORK, 1913–1923.

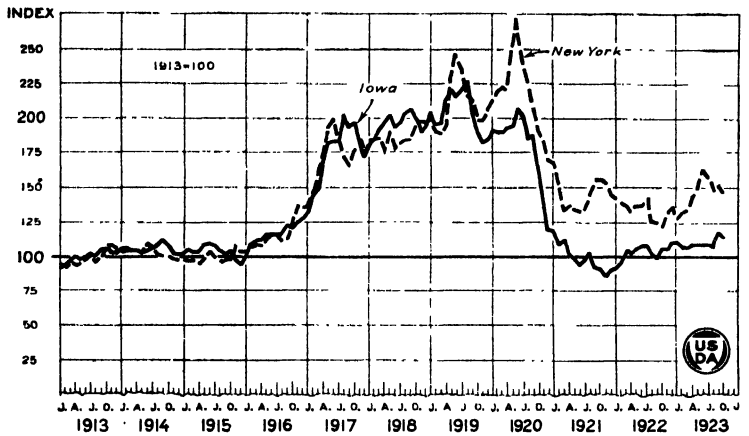


FIG. 10.—Prices paid to producers of farm products in New York and Iowa were very similar until 1920. During the agricultural depression prices in Iowa fell below the 1913 level, while prices in New York fell to only 125 per cent of the 1913 level. During the post-war adjustment farm prices fell greatest in sections farthest from market.

which enter the world stream as it flows to points of consumption. Under present conditions these producers find themselves producing at costs beyond their control and which make it impossible for them to compete and live decently. The condition of the wheat grower serves to illustrate the difficulty. He has been producing at practically war costs and is meeting competition which forces him to sell at prices well below the actual cost of production. The result is that those farmers who depend mainly, or evenly largely, on wheat as a source of income are going back steadily year by year. Thousands of them already have gone bankrupt, and more are well on the way.

The Wheat Situation.

There has been prepared in this department a very complete report on the wheat situation in all of its aspects. This report is

republished in this Yearbook, but it may be well to note here some of the suggestions which have been made by various persons as to ways by which the wheat grower might be helped out of his distressing situation.

Reduction of acreage. Since the acreage was largely increased to meet war demands, and since we now have a surplus, reduced production is looked to at once as the obvious cure.

Diversification—the growing of other crops from which part of the necessary income may be derived.

The organization of the wheat growers into a powerful cooperative.

The fixing by the Government of an arbitrary price which will cover cost of production.

WHEAT PRODUCTION AND ACREAGE IN THE UNITED STATES, 1912–1923.

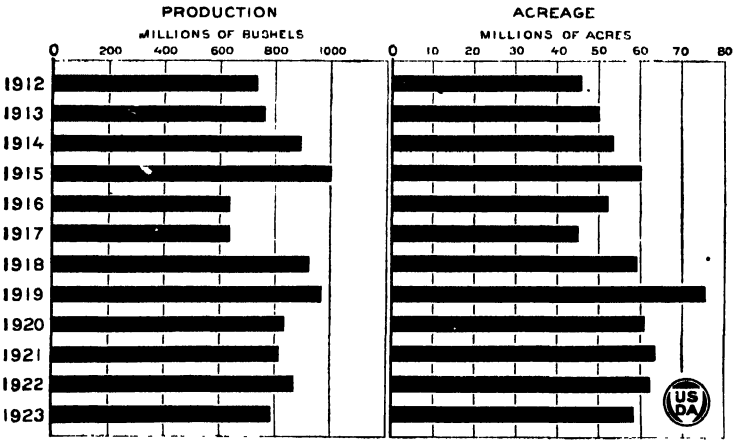


FIG. 11.—The wheat acreage reached the peak in 1919 under war conditions. Since that time the acreage has declined toward the pre-war level. The acreage sown for harvest in 1924 shows a decline of over 12 per cent from the acreage sown in the previous year.

Liberalizing the immigration law to bring in farm laborers and thus reduce cost of production. Also to bring in industrial workers in the hope of reducing industrial wages.

An increase in the tariff.

The purchase of the surplus by the Government and storing it against a time of short production.

The sale of fifty to one hundred million bushels to European Governments whose people can not afford to buy, but who are in urgent need of food.

The purchase of the surplus by a Government agency and selling it at a lower price in the world market.

Combination of two or more of the suggestions made.

Reduction of acreage has been taking place at a rate much greater than is generally realized. The acres of wheat harvested increased from 47,000,000 before the war to a peak of 75,000,000 in 1919. From that high point the acreage has shrunk to 58,000,000 the cur-

rent year. This shrinkage has been due to the substitution of other crops for wheat where such substitution offered a possible profit, to the abandonment of wheat farms in regions where because of repeated crop failures or financial stress such abandonment was forced, and to the reduction of acreage on other farms and ranches because of shortage of labor at a price the wheat grower could afford to pay. The acreage in wheat is still larger than is necessary to meet the needs of home consumption, assuming that we have normal crop years, and reduction is going on. It must be kept in mind, however, that in large areas of the West and Northwest soil and climate are better adapted to the production of wheat than any other crop. Farmers in those sections are fixed for growing wheat, their farm equipment is adapted to it. They can not all at once change to another crop, even if some other crop gave fair assurance of profit. On the whole, the shrinkage in acreage has been as rapid as could be expected.

In many sections of the country which heretofore have specialized on wheat substantial progress has been made in diversification. A study of the tables and graphs which will be found in our special wheat report tells this story very clearly. But diversification in any large way requires that more of the land be fenced, more buildings provided, more machinery of a different kind purchased. It also requires a better knowledge of general farming methods. In short, the wheat farmer must have both time and money to shift into more general farming, even in regions where that is clearly the best thing to do. Most of them, however, probably can and should produce on their own farms more of the milk, butter, eggs, meat, and vegetables which they need for their own tables and thus cut down a substantial part of the out-of-pocket expense. Cooperation of Federal and State agencies with local committees to help worthy farmers help themselves ought to be productive of good results.

The idea that the Government can arbitrarily fix a price that will cover cost of production and by this means restore prosperity to the wheat grower is no longer entertained by any considerable number. It is clear that such a course would simply stimulate production, not alone in the wheat country proper but in the great humid sections which can produce large crops of winter wheat, and will if the price is more attractive than the prices of corn and oats. A Government fixed price would make it necessary for the Government to be prepared to buy at that price, and without some means of disposing of the surplus bought our last state would be worse than the present.

The bringing in of foreign farm laborers with the thought of reducing production costs through cheaper farm labor seems visionary. The pull of higher industrial wages would operate about as effectively on them as on our own people. If they should stay on the farms and thereby increase production, that would hurt rather than help, for we already have more farm production in important crops than can be sold at a fair price. A large increase in labor in the industrial centers might tend to reduce costs of the things the farmer buys and would add that many more mouths to be fed here.

The purchase and holding by the Government of our surplus wheat might prove of temporary help, provided an advance in price, which is the object sought, should be protected by the necessary advance in the tariff. The existence of a large surplus, however, would exert a

constant downward pressure on the price of the next crop, large or small. Unless production is controlled, an annual crop, except for a reasonable carry over, must be sold annually.

The proposal to sell a considerable part of our surplus to some country which can not buy for cash but which is in urgent need of food is worthy of consideration. This would involve selling on long time and taking evidences of indebtedness, issued by State or municipal governments, calling for payment over a term of years. Commercial exporters can not extend credit for the length of time needed nor safely take the risks involved, but the Government, through some suitable agency, might well consider it. Such plan contemplates the free distribution of the wheat, or preferably flour, by the purchasing government and the amount thus sold would be taken out of the competing market.

The existing tariff has given a substantial measure of protection to the growers of certain varieties of wheat but not sufficient to make good the difference in cost of production and marketing here and in some competing countries when all factors are considered. Any effort which has the effect of advancing wheat prices at home must be supported by an advance in the tariff on wheat. A study of the conditions which influence the cost of wheat production in the United States and Canada has already been submitted to you.

The organization of wheat growers into a successful powerful cooperative marketing association might enable them to control the flow of wheat to market more effectively and to reduce marketing costs. It ought to be possible, although admittedly difficult, to adapt to wheat marketing the methods which have proved successful in the marketing of many other farm products. But the amalgamation of the many existing associations into one powerful body and bringing into it the large number still unorganized is the work of years. Even if it were done now, the fundamental difficulties of the wheat grower right now are too deep-seated to be eliminated by such an organization.

The proposal, which has been advanced and considered from time to time for two years past, to set up a Government agency with broad powers to buy and export wheat and other agricultural commodities of which we produce a large exportable surplus, is in my judgment one of the proposals which like several others is worthy of renewed consideration at the present time. The objective to be attained is to secure for wheat and other agricultural products an exchange value approximately equal to what it was before the war. As has been said often, one of the chief causes of the agricultural depression is that farm commodities are relatively far cheaper than before the war. The price of wheat in dollars at terminal markets is not far from pre-war prices in dollars, but a bushel of wheat on the farm will buy much less of the things farmers need or desire than before the war. The end sought, therefore, is to put farm products on a price plane comparable with the price plane of other commodities.

The proposal in question contemplates the setting up of a Government export commission charged with the duty of disposing of the surplus in the form of wheat or flour in such a manner that the domestic price may rise behind an adequate tariff barrier to the point of restoring the pre-war purchasing power of wheat in the

domestic market. Such an agency would need money with which to operate, and it is proposed to start it with a working capital of, say, $50,000,000, that being the approximate sum which the Government made in the way of profit by its war-time handling of wheat and flour when the price of wheat was arbitrarily controlled and held below the price at which it would have sold without such control. In case losses should be incurred because of the character of its operations, it is proposed to recover the losses through the levy of an excise tax on the crop of wheat itself. In the end the cost would be paid, not out of the Public Treasury but from assessment on the growers benefited and should not be large.

That in briefest form is the essence of the plan suggested. It is not a proposal for price fixing, as that is generally understood. It might be described as a plan to give the wheat grower the measure of protection which is given to so many other groups by making fully effective the principle of the protective tariff on a commodity of which we produce a surplus and which is suffering from destructive competition in a depressed foreign market. Or it may be described as a plan by which the Government, without material loss to itself, undertakes to do for the wheat growers what they can not now do for themselves—bring them into a general wheat pool through the operation of which they may secure a fair price.

The proponents of this plan suggest that it avoids the stimulus to overproduction which is a serious objection to arbitrary price fixing, and that the mechanism of marketing wheat now existent need not be seriously interfered with, assuming that exporters evidenced a willingness to cooperate with the export corporation. This is important, because the reason for the corporation should gradually disappear as the reestablishment of normal conditions through natural economic forces restores normal price ratios.

While the plan proposed could be applied more easily to wheat than to some other agricultural products, obviously if favorably considered it should not be confined to dealing in wheat alone. It should include all agricultural products of which we have a considerable exportable surplus and the prices of which are substantially out of line. Especially should provision be made for handling pork products, of which we export large quantities and which also were brought under Government control during the war.

Many objections, some of real merit, can be urged against the scheme proposed. It is conceivable that there are some obstacles which may not be easy to overcome. However, there seems to be so much merit in the proposal that it is worthy of the most painstaking analysis and the most critical scrutiny. The principles invoked are such as have been successfully applied in times past by private initiative by industries which have successfully disposed abroad of an embarrassing surplus.

If farmers could control their production as does organized industry, or if they could exact a price for their labor as does organized labor, unusual action by Government might not be demanded so urgently. It is just as well to keep in mind that both industry and labor are beneficiaries of Government action and that such action during the war and the two years following has added not a little to the farmer's difficulties.

It is well to remember also that our population is growing rapidly and that before many years there will be a home demand for even more of farm products than we are now producing. If, during this period of agricultural distress, we permit production to be shrunk to present needs by driving farmers from the land and into the cities, we shall be under the necessity of reclaiming at large expense the productive land which is now being abandoned. And if we should experience one or two years of short crops while this process is going on, the consuming population will find itself compelled to pay prices for farm products which will impose upon it a burden comparable to that under which the farmer has been groaning.

On the assumption that it is the national purpose to keep ourselves on a self-sustaining basis agriculturally, wisdom would seem to justify going to some trouble to help farmers bridge over a period of depression caused by an economic cataclysm. Precisely that thing has been done in the case of labor and of some industries. Those who urge that economic laws should now be permitted to have free play with agriculture do not give full consideration to what happened during the war and for two years afterwards.

Helping Farmers to Help Themselves.

Whatever may or may not be done by Government, it is perfectly clear that the success of the individual farmer will depend on his own efforts. That he must work hard goes without saying, but under present conditions it must be work with the head as well as the hands. The crops to be grown and the kind of farming to be followed must be determined not alone with an understanding of the conditions which influence production but with some knowledge of the prospective demand for those crops and some study of the conditions which are likely to influence the price. The Department of Agriculture is trying to help the farmer help himself both in determining what to grow and how to grow it and in putting in his hands the kind of information concerning domestic and foreign conditions which he needs to produce and market to the best advantage.

The change in railway rates has led to the necessity of readjusting the agriculture in the regions surrounding many of our cities. Food products which were formerly produced under more favorable soil and climatic conditions and shipped great distances can, with present freight rates, be produced on the neighboring farms and delivered to these cities with profit. A start has been made in helping the farmers around certain centers of population to solve their problems of readjustment to these changed conditions. Joint market demand and farm management surveys have been made for: Altoona, Pa.; Boston and Springfield, Mass.; New York City, and Tulsa, Okla. It is believed that owing to lack of information with regard to local demands, foods are often shipped great distances when they might be sold with greater profit close at hand. The purpose of these surveys is to help farmers make the readjustments in their farming and marketing which will enable them to provide the local markets, so far as they can profitably do so, with such food products as have formerly been shipped great distances. In the larger cities the study of market demand has a broader significance than providing information for the near-by producers. The mar-

ket analysis research which has been conducted for the past two years in New York City and Boston looks toward the development of methods of measuring and forecasting the market demand in these consuming centers. Other consuming centers, particularly those located in the one-crop producing areas, should be surveyed in a similar manner. It is hoped that State agencies will take up these studies, as it is impossible for this department to pursue them in any large portion of the country.

World Demand for Farm Products.

To compete successfully the farmers of the United States need to know the world demand for the commodities of which they produce a surplus for the world markets and the conditions under which their competitors are producing. To meet this need a world crop and market reporting service has been developed for the purpose of collecting, summarizing, and interpreting information as to demand and competition in foreign markets.

The international Institute of Agriculture has greatly improved its reporting service to the Department of Agriculture in the past year. The institute has promptly cabled reports of conditions and estimates of important crops and livestock from all of the countries of the world reporting to the institute. For example, an estimate of the wheat crop in Argentina is cabled to the institute within a few hours after the estimate has been released in Argentina and in turn is cabled to the United States, and the same day this report is broadcasted from the Department of Agriculture by radio, telegraph, and press release. In this way the farmer may know as soon as the trader the size or condition of the crop in other parts of the world. Greater use will be made of this and other information on agriculture in foreign countries as its value to agriculture in this country is more fully recognized.

Survey of World Agriculture and World Markets.

To continue to adjust American agriculture to meet the needs of an ever-changing world market situation, it is necessary to know the trend of production in foreign competing countries. The war had a profound effect upon many of our competitors as well as upon our own markets. As in the United States, the conditions of production in these countries are continually changing. To meet the need for such information a world survey of agricultural production has been inaugurated.

A close study has been made of agricultural conditions in Europe with a view to a better undersanding of the rapidity with which the peoples of western Europe were reestablishing their pre-war normal in agricultural production, and particularly in order that the American farmers might be informed regarding the revival of those lines of agriculture in eastern Europe which compete with the American farmer on the western European markets. Detailed studies have been made of the agriculture of the Danube Basin, and a survey of western Europe is now in progress. Detailed reports have also been made on agricultural competition and demand in Argentina, Chile, and Peru.

Representatives of the department are stationed in England and Germany for the purpose of reporting on agricultural and other conditions affecting the demand for farm products. These representatives, through their contacts with importers of farm products, with Government officials who know agricultural conditions, and through direct study of the agriculture of the countries in which they are located, have kept the department informed by radio and by cable of the important developments in foreign crop and market conditions.

Representatives of the department are sent abroad from time to time to help our foreign buyers to a better understanding of the United States grades and standards which form the basis of commercial transactions in farm products exported from the United States. Thus the foreign work not only provides information which facilitates the better adjustment of American agriculture to world conditions but services are rendered also which facilitate the marketing of our agricultural surpluses.

Forecasts of Crop and Livestock Production.

The value of accurate forecasts of crop and livestock production can not be questioned. The more that is known of what is likely to occur in the future, the more intelligently can plans be made. This is particularly true regarding agricultural production, for which the machinery, when once put in motion, must usually be kept going throughout the season, regardless of the fact that production may be greatly in excess of the demand at prices that will be profitable to the producer.

Intention-to-Plant Surveys.

Producers need information to guide them in making proper adjustments between the acreage planted to the various crops. The department began last spring to furnish this information. This was done by securing from many thousands of farmers prior to spring planting statements of the number of acres of various crops which they intended to plant. A similar report relating to fall-sown crops was issued in August. These reports will be issued semi-annually hereafter. When the purpose and value of these reports on intentions to plant are thoroughly understood they will exert an important influence and assist materially in adjusting acreage by preventing the over or under planting of particular crops. Although this is the first year that this work has been attempted, favorable results have already been noted.

A study is under way to ascertain in a scientific manner the factors which should be considered in forecasting the price of a particular product. There are signs of price changes which appear before the changes occur and serve as advance indications of the price movements. The practical purpose of the price analysis work is to give the farmer the benefit of a scientific analysis of price movements so that he may be able to make the best estimate possible from the facts available.

Farmers of necessity make production and price forecasts. On the basis of their forecasts they plan what they will undertake for

the coming year, how much land they will use, the acreage they will put into each of the various crops, the livestock they will keep, and when they will market their products. While forecasts have always been made by farmers, it is believed that facts can be furnished which will make their forecasting more accurate than it ever has been.

The "intentions-to-plant" reports are not in any sense forecasts of acreage or yield, although they have sometimes been taken as such. They indicate what is in the farmer's mind at the time the report is made. When the general intention is made known individual farmers can then change their intention in the light of the new information.

Following the reports on "intentions-to-plant" mentioned above, it was felt that a comprehensive estimate of the general outlook would be a special value to producers. A group of well-known economists and statisticians were invited to meet in Washington on April 20 last to consider the report on intended crop plantings and other materials relating to demand, and to prepare a statement on the general factors now underlying the agricultural situation with a view to furnishing all possible bases for intelligent adjustment of production to demand. This committee drafted a concise statement on the general economic outlook which it is believed has been of material aid to all agricultural interests.

This group met again on July 11 to consider the foreign and domestic demands for farm products, the wheat situation, and the corn-hog situation. A valuable report was prepared, consisting largely of the presentation and interpretation of data collected by the Bureau of Agricultural Economics, which set forth the salient facts governing the agricultural outlook at that time. This report has been received with much interest by farmers, bankers, traders, and many others interested in the agricultural situation.

Comparative Estimates a Guide to Marketing.

Producers also need information to guide them in determining when to sell their crops and livestock. This need the department is striving to meet by issuing promptly after harvest, as a supplement to the regular forecasts of production, an estimate of the quantity of each crop produced, together with comparisons with previous years. In order to give a more complete picture, information concerning foreign production is also gathered and published. Thousands of farmers study these reports from month to month and are guided in their marketing operations by them.

Pig Surveys.

The special pig report which was issued in June, a year ago, showed a marked increase in the intentions of the farmers to breed for fall pigs, the increase amounting to 49 per cent in the Corn Belt States. When the report was made in December showing the actual number of fall farrowings, it indicated that this intention had been practically cut in two. Undoubtedly the information furnished by the department as to the increase had an important effect in reducing the fall pig crop to a more reasonable basis.

The report of July 1 of this year showing intentions to breed for fall pigs again showed an increase for fall farrowings, but judging from the large number of sows which have been going to market during the summer, farmers changed their plans when they learned the general intention and the actual fall farrowings will fall much below the expressed intentions of the farmers. That is the result to be desired from these reports.

Receipts at the various markets, which permit the checking up of these estimates, indicate that it will be possible to forecast quite accurately the probable movement of hogs to market several months in advance of the actual movement.

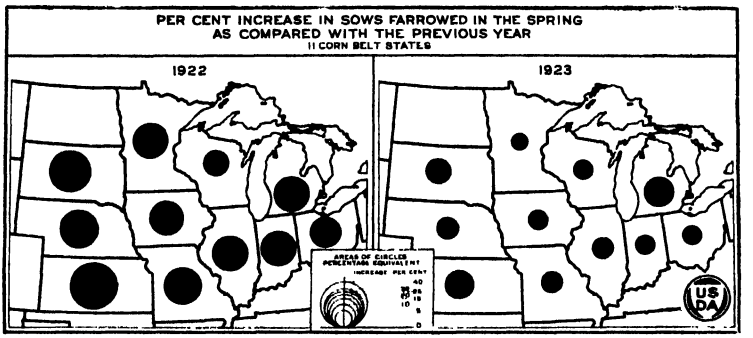


FIG. 12. The number of sows farrowed in 11 Corn Belt States in the spring of 1922 was 22.8 per cent above the number farrowed in the spring of 1921. The increase in the spring of 1923 over 1922 was 8 per cent. The December, 1923, survey showed a decline of 6.1 per cent from the number farrowed in the fall of 1922. This survey also showed a considerable decline in the intentions to breed for spring pigs in 1924 compared with the actual farrowings in 1923.

Acreage Estimates Improved.

The problem of estimating acreage is one of the most difficult confronting the crop forecaster. In order to secure greater accuracy, therefore, a measuring instrument has been devised for attaching to an automobile by which the linear measurement of all fields in various crops bordering on highways can be easily and quickly made. By covering sufficient territory a very accurate ratio between the areas in different crops can be determined and by covering the same highways year after year, the change in acreages in various crops can be worked out. Successful experiments have been made with this instrument and it will be used in practically all States hereafter.

Livestock Reporting.

This year a long step in advance has been taken in the work of livestock reporting. Practically a new service has been started for the purpose of estimating actual production for market, available supplies, and movement of cattle and sheep. Estimates were issued on December 1, January 1, and March 1 last, of the number of cattle and sheep on feed in the Corn Belt as well as in the western States. Weekly reports were issued during the height of the season of the lamb movement in the Colorado-Nebraska district, showing the actual movement to market. The total number of lambs shipped

out of this district checked very closely with the estimates made at the beginning of the season. Reports of the available supply of feeder cattle for spring and fall shipment were made for a number of western States, and hereafter will be made for all States which ship feeders. Reports were also made monthly for 17 western States showing pasture and feed conditions, as well as the condition of livestock on the ranges. An immense amount of historical data for previous years was compiled from the records of railroads, stockyards, concentration points, local packing establishments, and other such agencies, in order to secure a background for the quantitative estimates of movement.

Cost of Production.

Cost data form the basis of the selection and combination of livestock and crops so that the largest net return may be secured by the farmer. Through cost studies farmers learn how to reduce their costs through more efficient management. Cost of production data are being gathered in representative areas throughout the United States with this object in view. The material is being used by large numbers of producers in these areas in the organization and operation of their farms.

The department is building a structure of index numbers of costs of production, national in scope, which will give the trend of production costs for all the important farm products entering into domestic and foreign commerce. The factors of production, such as labor, equipment, machinery, and fertilizer are being obtained in quantity as well as value units, which make possible a comparison of the basic requirements in agriculture with those of manufacture and public utilities. These agricultural cost trends should be very valuable to our legislators in deciding agricultural policies, to the farmers in helping them forecast probable cost trends, and to those industries directly dependent upon the farmer in planning their production programs. Knowledge of price and production trends helps farmers decide what to produce and helps to stabilize production. Standards of production are being worked out also from which farmers can judge the efficiency of their own operations.

Cost studies are furnishing information of specific value at the present time in the boll-weevil-infested areas of the South. The gradual expansion of the boll-weevil area has led to a study of the cost of the cultural methods and practices and crop rotation systems which best combat the weevil. On the basis of these studies systems of cotton farming are being worked out with a view to securing the highest net return per unit of expenditure.

The disastrous financial condition of so many of the range cattle producers at the present time has led to the general belief by many western cattle producers that possibly some changes in their methods of meat production should be made. In an endeavor to be of assistance to the beef producers, field work in ranch costs and management was begun in the spring of 1922. These ranch studies are being combined with similar studies on cattle using the national forest ranges. From this work the department will be in a position to make known the methods of handling and systems of beef production which will produce the best results under present conditions.

Readjusting the Farm Program.

Hand in hand with the cost of production studies are the studies of farm management and farm practice. The work in farm management in the past has been largely the studying of normal agriculture. This year we have turned our attention to applying the results of our studies of normal agriculture to unusual conditions which exists in many sections.

For example, the northern Great Plains area has suffered severely. The Department of Agriculture during the past year was called into conference with the agricultural colleges in this region with a view to devising some measure of relief for the farmers in the Northwest. This region during the last years of the war, when the price of wheat was high, suffered an unprecedented series of dry seasons which greatly reduced agricultural production, and more recently the price of wheat has been far below the cost of production. As a consequence land values have depreciated, farmers have become discouraged, and the prosperity of the region has been in grave jeopardy. Recognizing the seriousness of the situation, a spring wheat regional council was organized in the department about a year ago.

Spring Wheat Council.

This council appointed two committees to cooperate with similar committees representing the agricultural colleges in the spring wheat States, one committee dealing with production and the other with the marketing of agricultural commodities in that region. At a conference held in St. Paul last January a report was prepared containing recommendations of measures which it was believed would help provide immediate relief to the farmers of the region.

A comprehensive study of farm organization and land utilization in the region has been begun by the department in order to determine in just what parts of the region a permanently profitable agriculture can be established and just what types of farming are best suited to the different parts of the region.

Agricultural Credit.

The agricultural credits act of 1923 established 12 intermediate credit banks, one to serve each of the Federal land-bank districts. It increases from six months to nine months the term of discount on agricultural and livestock paper by the Federal reserve banks. It broadens the definition of agricultural paper so as to include credit used in the preparation for market and the marketing of agricultural products by farmers' cooperative associations. It increases from $10,000 to $25,000 the maximum mortgage loan to individual farmers by the Federal land banks. It gives the borrowers from the land banks a measure of control of these institutions. It authorizes the organization of national agricultural credit corporations which will prove of special benefit to the parts of the country where the livestock industry is most prominent.

While the law does not authorize direct loans to individual farmers, local agricultural credit corporations may be organized by such farm-

ers in order to obtain discount privileges. In some States evidently the State laws must be amended before farmers can get the full benefit of the Federal law in this way. Bankers and business men in communities where present facilities are inadequate may also organize such corporations. Only in localities where present credit facilities are inadequate or where local banks, by reason of the limitation upon interest rates provided in the law, or for other reasons, refuse to avail themselves of the facilities for intermediate credit afforded them by the new banks, is it believed necessary or desirable that agricultural credit corporations should be established.

This agricultural credits act if vigorously administered should be most helpful in furnishing the sort of credit needed to meet the peculiar needs of the farmer.

MONTHLY AVERAGE NUMBER OF LOANS CLOSED BY FEDERAL LAND BANKS, 1917–1923.

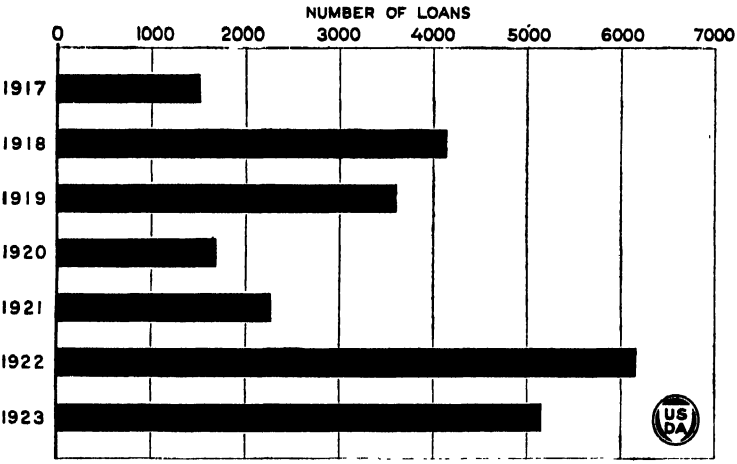


FIG. 13.—The first charter to a national farm loan association was granted March 27, 1917. By October 31, 1923, the Federal Land Banks had closed 284,095 loans amounting to $846,030,954. The lending operations of the banks during 1920 and 1921 were curtailed by litigation involving the constitutionality of the Federal Farm Loan Act.

Increased Activity Under the Warehouse Act.

Changes have been taking place in methods of marketing and financing farm products due to the increased credit facilities which have been extended to farmers and the development of the federally licensed warehouse. For example, the cotton which was formerly sold abroad quickly and financed abroad is now held in this country, warehoused and financed in this country, and sold gradually.

The year 1923 marked the greatest progress in the licensing of public warehousemen under the United States warehouse act for the storage of agricultural products since its passage in 1916. This is shown in the following table.

Number of licensed warehouses.

Kind of warehouse.	To April 1, 1921.		To June 30, 1922.		To June 30, 1923.	
	Number.	Capacity.	Number.	Capacity.	Number.	Capacity.
Cotton	238	429,975 bales	270	1,210,000 bales	331	2,639,200 bales.
Grain	56	2,108,400 bushels	265	14,450,000 bushels	231	20,297,047 bushels.
Wool	5	24,375,000 pounds	18	27,500,000 pounds	15	32,100,000 pounds.
Tobacco			14	68,400,000 pounds	51	219,475,000 pounds.

Much of the progress made is attributable to the attitude taken by growers' cooperative associations and bankers toward receipts

INCREASE IN THE CAPACITY OF WAREHOUSES LICENSED FOR STORING COTTON, GRAIN, WOOL, AND TOBACCO UNDER THE UNITED STATES WAREHOUSE ACT, 1920–1923.

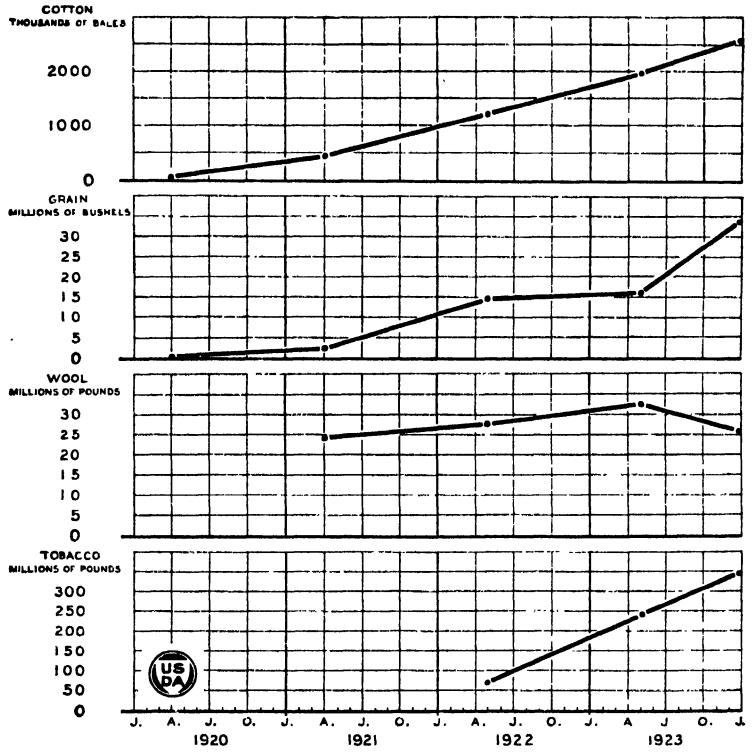


FIG. 14.—The license capacity for storing cotton from April 1, 1920, to December 31, 1923, was increased 64 times. Licensed capacity for grain during the same period increased 249 times. Although during April, 1923, there were no warehouses licensed for storing wool, on December 1, 1923, the licensed capacity was sufficient to store one-sixth of the wool clip. No tobacco warehouses were licensed until early in 1922. On December 31, 1923, licensed warehouses could accommodate approximately three and one-half million pounds of tobacco.

issued under the law. A number of cotton and tobacco growers' cooperative associations refuse to place cotton or tobacco in any warehouse not licensed by the department. Resolutions favoring the licensing of warehouses under the United States warehouse act

have been adopted by many banking and clearing-house associations. The Federal Farm Loan Board, in administering the intermediate farm credits act of 1923, in its perliminary rules and regulations included a rule reading as follows: "Intermediate credit banks will accept the receipt of any warehouse licensed and bonded under the Federal warehouse act."

The formation of cooperative growers' associations, the improved credit facilities made available by the Government, and the attitude of large banks are all encouraging the producer to hold his crops for a longer period after harvesting and thus encouraging more orderly marketing. The Federal warehouse act has clearly demonstrated its value in this movement.

Until February 23, 1923, the act applied only to cotton, grain, wool, and tobacco. On that date the law was amended so as to apply to such agricultural products as might be considered properly storable under the act. The department has since received requests from many sections for licensing warehouses for the storage of beans, eggs, and other cold-storage products, apples, potatoes, and many other products. Just as fast as the necessary trained men can be found to add to the staff, warehouses for the storage of additional products will be proclaimed licensable.

Market News Service Expansion.

This year marks the first substantial expansion in the market news service of the department since the funds were curtailed at the close of the World War. For the present fiscal year Congress increased the appropriation for this work by nearly $300,000, this increase being granted for the purpose of extending the service to the far West and to the South. On July 1 the leased wire was opened to San Francisco, passing through Denver and Salt Lake City, and on September 1 a similar wire was opened to Atlanta, Ga., passing through Richmond, Va., and Raleigh, N. C. Offices at Los Angeles and Portland, Oreg., were opened on July 1, and are reached by radio and commercial wire service from San Francisco.

New branch offices were opened in both the West and South to collect and disseminate market information. While this expansion does not restore the nation-wide system that existed during the war-emergency period, the extension to the far West and to the South are making our market reports available to a very large number of producers. This extension has imposed a heavy burden upon the working force in the larger market centers, however, and further additions to these forces will be necessary in order to maintain the scope and quality of the work.

Before the extension to the Pacific coast can be of the greatest usefulness it will be necessary to increase our program by reporting a number of crops, such as prunes, which heretofore have not been covered. Urgent demand has been made upon the department also for the reopening of branch offices in a number of important eastern markets, but until additional funds are made available it will not be possible to meet this demand.

Radio News Service.

Radio broadcasting as a means of disseminating market information has been given a thorough trial during the past year and has

fully demonstrated its value. Through the cooperation of the Navy Department the high-powered radio stations at Arlington, Va., Great Lakes, Ill., and San Francisco, Calif., have been used in transmitting market information which has reached a large portion of the country.

The secondary broadcasting by radio telephone has been further developed, and now any farmer who has an adequate receiving set may get full market reports from the air in practically every part of the United States. An inquiry among county agents showed that the number of receiving sets on farms is rapidly approaching a quarter of a million and that through the distribution of these reports by local schools, farmers' organizations, business houses, etc., the market information is becoming available to a large proportion of our farmers.

Increased Demand for Information on Agricultural Situation.

Conditions during the past year throughout the country have tended to increase the demands made upon the Department of Agriculture for facts and figures which help to interpret the constantly changing situation. In line therewith the department has attempted to make still more effective its machinery for disseminating timely economic information. Through its extension organization it has succeeded in maintaining excellent contact for this purpose with farmers and farm leaders. Charts and statistical summaries have been sent out at regular intervals and these have been widely used by individuals and the press. A condensed summary has been prepared each month, showing the trend of important economic factors, such as production, consumption, movement and prices. This monthly summary has been issued as a mimeographed circular under the title, "The Agricultural Situation." This circular contains a terse statement of the month's developments in production, prices, movement to market, exports, cold storage, and business factors reflecting demand for farm products.

Shipping Point Inspection Service.

For the fiscal year 1923 Congress authorized this department to inspect fruit and vegetables at shipping points. This opened the field for a new service of supreme importance to the fruit and vegetable industry, as it makes it possible for producers and shippers wherever the service is available to secure an inspection by a Federal inspector before the produce is shipped. This service is permissive only. The certificates issued are prima facie evidence in the courts of the United States as to the grade and quality of the product inspected. In many shipping areas the demand for this service was already loud and insistent.

To meet this active and potential demand it is estimated that no less than 1,000 inspectors will ultimately be necessary, although a majority of them will be part-time men. It should be noted that over 550 inspectors have been licensed during the first three months of the current fiscal year. It is expected that this work will pay its own way through the fees collected, but these fees must be made reexpendable or there must be provided a fund of about $1,000,000 annually upon which to draw for salaries and expenses. The act, however, carried not a dollar of increase for the inspection item,

although the work to be done at shipping points is fully ten times as extensive as that previously done in the terminal markets, where an average of 50 inspectors were employed.

The department was therefore limited to such work as could be done through cooperative agreements with certain States, especially those whose officers could operate revolving funds. Under these agreements the inspectors have been employed and paid by the State, and the fees have been assessed by, paid to, and reexpended by the State. We have licensed these inspectors, supervised their work, and charged the State a fee, which has gone to the United States Treasury as miscellaneous receipts.

Although active work has been possible in less than half the States, certificates were issued on 72,666 carloads of produce at shipping points and on 28,169 cars in terminal markets. This means that every one of these shippers held prima facie evidence of having made a good delivery if he based his sale on the Federal certificate. It

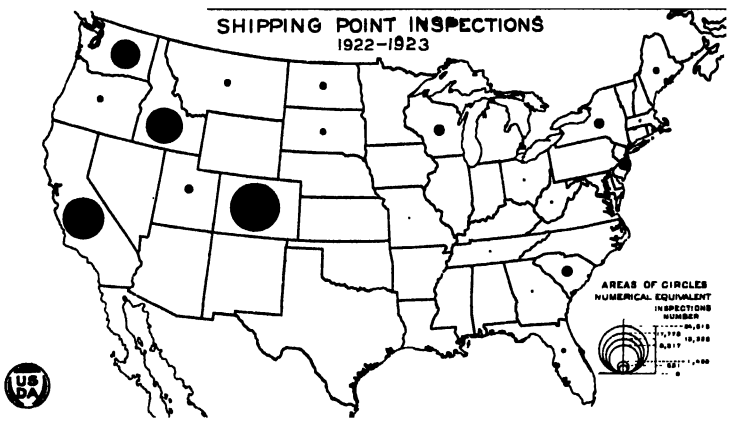


FIG. 15.—The above map shows that the greatest demand for shipping point inspection of fruits and vegetables was from heavy producing States which are far from the principal consuming centers. The number of inspections requested is determined largely by local conditions. State legislation encouraging and in some cases requiring inspection was very influential in determining the amount of cooperative Federal-State inspection work performed.

means also that every buyer who demanded "Government certificate attached to bill of lading" bought with assurance that a competent and impartial inspection had determined the variety and grade of the fruits or vegetables offered him.

The economic results of this innovation have been spectacular in the swiftness of their development. They promise to be well-nigh revolutionary in their ultimate effect upon fruit and vegetable marketing.

First, the true meaning of standardization has been brought home to the grower as never before.

Second, the growers' organizations have improved the quality of their offerings and have found a new and acceptable basis for pooling.

Third, potato growers especially have learned what sort of stock should not be shipped at all except in years of extremely high prices.

Fourth, the shipper has a new basis upon which to offer his product and has no fear that the prospective buyer will discount his statements.

Fifth, the buyer can order in safety without seeing the goods.

Sixth, the certificate acts as a general insurance policy in case of loss or damage in transit.

The trade quickly realized that this service made possible a new system of car-lot marketing. Auction companies have been formed in both eastern and western cities which sell only cars in transit and on which certificates have been issued. The success of this system has been marked from the start. On the first 500 cars of cantaloupes thus sold the commissions were only one-third as high as those generally prevailing at the time. The final destination of the car was determined during its first day on the road, and it moved without indirection or delay to the place of consumption. Meantime the

CAR-LOT INSPECTIONS AT RECEIVING MARKETS FOR PAST FIVE YEARS.

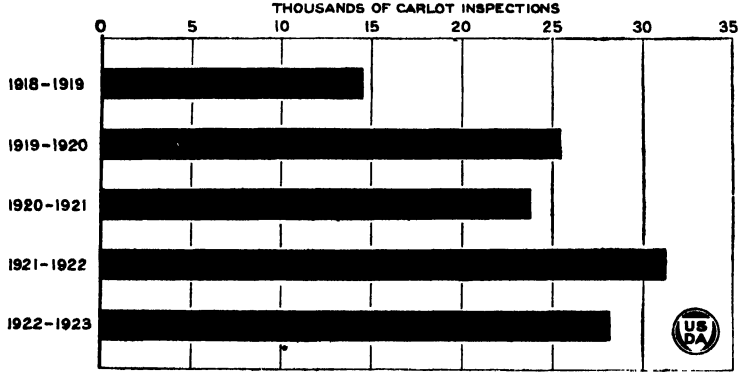


FIG. 16.—After the year 1918–19, during which the inspection service was being organized, the number of inspections requested in receiving markets has varied according to weather and crop conditions. The severe winter of 1919–20 resulted in thousands of requests being filed for inspection covering transit freezing injury. Epidemics of field diseases of certain crops have also influenced the number of inspections requested.

shipper had his money, transmitted by telegraph, within 48 hours after loading his car. Thus has the road between producer and consumer been shortened and straightened, and a clear saving of 10 per cent of the f. o. b. price has been effected by the shipper.

Prior to last year our inspection service in terminal markets had never earned in fees more than five-sevenths of the appropriation made by Congress for this work. Last year, without curtailing the city service and without a dollar of increase for this item, we more than trebled the number of cars inspected and have returned to the Treasury six-sevenths of the amount appropriated. When considered in connection with the profound reforms and economies to which the work has given rise, this is one of the most marked accomplishments of the year in our entire field of economic service.

Standardization of Farm Products Universally Accepted.

The benefits from well defined and generally accepted standards for farm products are no longer seriously questioned. With premiums being paid for products of uniform grade, coupled with

high costs of transporting and handling nonstandardized products, farmers have come to realize the value of this work. Standardization of fruits and vegetables received fresh impetus from the inauguration of the shipping point inspection, as uniform standards are fundamentally necessary to the successful operation of an inspection service. At the present time Federal standards are being used for a large number of the most important fruits and vegetables, and many of these standards have been made mandatory under State laws.

After several years of intensive work, Federal grades were recommended for a number of the most important types of hay. These grades have been very well received on the part of producers and the trade, and are used as the basis for the inspection service on hay which was inaugurated on July 1 of this year.

On February 23, 1923, the warehouse act was amended so as to permit of the storage of any agricultural product, considered by this department to be properly storable, in a federally licensed warehouse. As a preliminary step to the enforcement of this act, it is necessary to establish Federal standards for all products to be stored in licensed warehouses.

Tentative standards have been established covering dark-fired, flue-cured and sun-cured types of tobacco of Virginia and the Carolinas and the dark-fired tobacco of Kentucky. Other tentative standards have been recommended and investigations are being continued.

The department's market classification for livestock has been further revised and is without doubt the most complete classification for meat animals ever attempted and constitutes a long step forward in standardization. Classes and grades of dressed meats have also been prepared which are proving of great benefit to the livestock and meat trade.

In response to strong appeals from both the domestic and foreign trade, Federal grades for rye were promulgated on July 1 of this year. These grades have received hearty indorsement from all branches of the trade. The demand for these grades by buyers in Europe, as well as by the domestic trade, indicates a wholesome confidence in the value of inspection certificates issued by licenses of this department.

Universal Standards for American Cotton.

An outstanding accomplishment of the year has been the establishment of universal standards for American cotton. With the passage of the United States cotton standards act on March 4, 1923, requiring the use of the official cotton standards of the United States in interstate and foreign commerce, the desirability of an international agreement on standards became increasingly evident. Accordingly, a conference was called at Washington on June 11, 1923, at which representatives from the leading cotton exchanges of Europe met representatives of the American cotton trade and officials of the Department of Agriculture, and reached an agreement that the official cotton standards of the United States for grade and color with some slight modifications should be adopted as universal standards for American cotton.

It was agreed that in so far as commerce in American cotton is concerned the entire world will use identical names to represent standard qualities. Contracts covering the agreements and rules under which the foreign trade in American cotton is to be conducted have been signed by the Liverpool Cotton Association, Manchester Cotton Association, the Havre Cotton Association, Bremen Cotton Association, Barcelona Cotton Association, and Rotterdam Cotton Association. By this agreement the international cotton business will be greatly simplified and the cause for disputes and reclamations largely eliminated, as the same standard will be applied to the cotton throughout its entire course from the time it leaves the farmer until it reaches the spinner in any part of the world. The path between

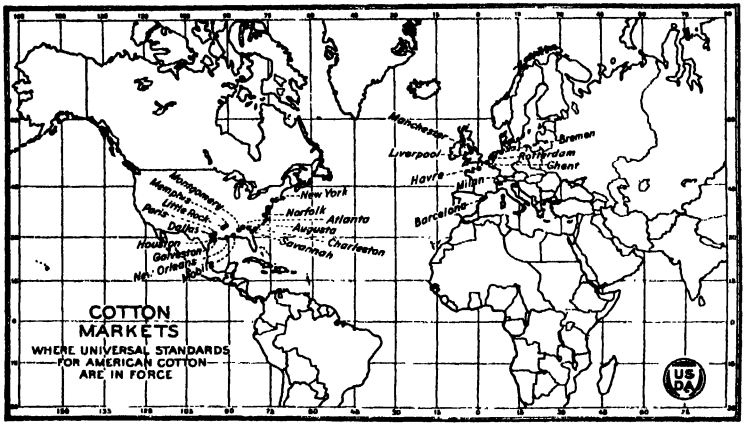


FIG. 17.—Every important cotton market in Europe and the United States has adopted and is now using universal standards for American cotton. Even the trade in American cotton in the Orient is based on these standards and purchases are usually consummated in the United States. Exporters representing eastern interests accept delivery here and ship the cotton under foreign ownership. It seems probable that Russia, Australia, Brazil, and Argentina may adopt these or similar standards for comparable varieties of cotton.

the farmer and the consumer will be shortened, with the result that the producer will receive a larger share of the proceeds from the sale of his cotton to the European spinner.

Grain-Cleaning Demonstrations.

One of the most serious problems in connection with the grading of wheat has been the question of dockage. Records for the past 18 years show that the wheat arriving at terminal markets has been marketed with increasing amount of trash and foreign material. For example, with respect to hard red spring wheat produced in the central spring-wheat belt, records covering a recent crop movement show that there was marketed with the wheat over 10,000,000 bushels of trash and foreign material. This is a burden upon the producer of wheat and represents an economic waste which this department has been working to overcome with a view to putting more dollars into the farmer's pocket for the wheat he produces. To accomplish this, the department has developed a cleaning device designed for attachment to threshing machines. Educational work is

being carried on to bring about the general use of this device and to demonstrate the value of marketing clean grain, as it will insure enormous financial benefit to the wheat grower.

Authentic Farm Population Statistics.

A detailed study of the movement of farm population in eight rural counties of the United States from census reports of 1920 is practically completed. This study, to be published by the Bureau of the Census, will furnish authentic information as to shifts of population from farms to villages and cities and vice versa, as well as "moves" from farm to farm in various sections of the United States.

Farmers' Standard of Living Studied.

The main purpose in connection with studies on the farmers' standard of living is to determine what farm families use and what they pay for the various materials such as food, clothing, rent, fuel, and other things. Another purpose is to learn what proportion of the expenditure goes for each of the various classes of goods consumed. Still other purposes are to obtain information concerning living conditions actually prevailing in certain selected areas, and to determine the relation of success of farming, of value of house and its furnishings, and of several of the more social factors to the family living. Such information gathered from various parts of the United States is needed by institutions attempting to direct agricultural development on a sound basis. It will help to answer some of the questions regarding the advantages of city versus country life, so far as the material well-being of the families is concerned.

Farmers' Mutual Insurance.

The department has aided and encouraged further improvement in the methods of operating the farmers' mutual insurance companies in all parts of the country and has brought about the extension of

AMOUNT OF OUTSTANDING INSURANCE OF FARMERS' MUTUAL FIRE INSURANCE COMPANIES, 1914–1921.

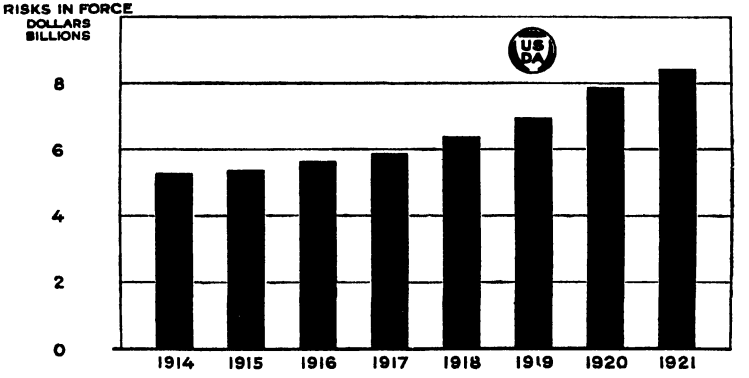


FIG. 18.—In 1921 there were 1,952 farmers' mutual fire insurance companies in the United States, and the risks in force in that year show an increase of 59.8 per cent over 1914. The average cost covering all losses and expenses was 27 cents per $100 of insurance.

this sound and economical form of insurance protection to those of the Southern States where as yet little development of this kind has taken place. In many of the States of the South fire-insurance rates as quoted by commercial companies are so high as to make the cost of protection to a considerable percentage of the farmers well-nigh prohibitive. Experience has demonstrated that through local co-operation expenses can be materially reduced and the loss ratio can be greatly lowered by the elimination of all moral hazards, as well as the elimination of some of the physical hazards involved.

Crop Insurance.

Special interest has been evident recently in the problem of insurance on growing crops. Several of the larger joint-stock fire-insurance companies have in recent years been experimenting with a broader form of insurance coverage for crops than that involved in so-called hail insurance, which has been extensively written for a number of years. The department has been glad to cooperate with the Senate committee appointed to investigate the subject of crop insurance in the United States and to contribute to the statistical and other data sought by this committee. The growing of crops is surrounded by a wide variety of hazards. The uncertainty of weather conditions, plant diseases, insect and animal pests give rise to a risk against which it would be highly desirable for the farmer to be in position to protect himself. In commerce and industry insurance protection against hazards over which the individual has no control is now very generally available. It seems reasonable and proper that the producer of crops should also be in position to safeguard himself against total or serious loss of his annual investment of capital and labor after doing everything possible on his own part to bring about a harvest.

Agricultural Cooperation.

During the past three years farmers in the United States have turned to cooperation for the solution of their marketing difficulties in ever-increasing numbers. In a period of rapid expansion it is only natural that the essential principles and limits of cooperation at times should be overlooked. The department believes, therefore, that its most helpful activity in this field consists in collecting and compiling the essential facts with regard to the cooperative movement and employing these data as the basis of careful studies of the older and more successful cooperative organizations. In this way an understanding of the general movement may be gained, and the principles which have guided well-established organizations made available to newcomers in the field.

The department has undertaken, consequently, to collect and compile the vital facts regarding existing cooperative organizations. Out of an estimated 10,000 associations in the United States information regarding form of organization, financial status, kind of products sold and purchased, volume of business, marketing methods, and similar features is available for approximately 6,000. Information regarding well-established cooperatives is even more complete than the figures given would indicate. Current material

is made available to those interested in cooperation through the publication every two weeks of a 16-page mimeographed circular containing economic, legal, and statistical information regarding cooperation in the United States and foreign countries.

Detailed studies of a cooperative sales agency for cranberries and a cooperative citrus-fruit marketing agency were completed during the year. The purpose of the studies is to point out, first of all, the general principles which have made these organizations successful; to point out also the particular problems each organization has had to meet and the way in which these problems and other special conditions have affected its development. A study is also being made of cooperative organizations which have failed, in an effort to determine the causes for failure of cooperation.

The objective of the department's work in cooperation, in brief, has been to collect the facts regarding the cooperative movement, to

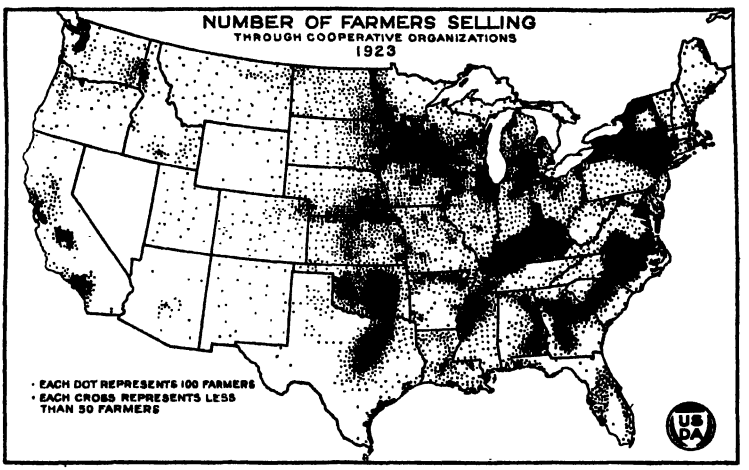


FIG. 19.—The 12,000 farmers' business organizations functioning at the close of 1923 had a membership estimated at 1,500,000. While these members were scattered over the entire United States they were especially numerous in the dairy sections of New York, Wisconsin, and Minnesota, the tobacco-producing regions of Kentucky, Virginia, and the Carolinas in the Cotton Belt States, and in sections of California where the fruit industry is highly developed.

ascertain by careful study the principles which will serve as guide-posts for the movements, and the factors which point toward danger and possible failure.

It is important to remember that there have been previous periods of expansion and decline in cooperative activity in the United States. Cooperative sentiment is always stimulated by agricultural depression. The first great cooperative movement in agriculture reached its apex about 1874, but lasted for only a few years thereafter. Local work went forward in the later years of the nineteenth century, but it was not until after 1900 that the present period of expansion began. It increased gradually for a number of years, gaining momentum about 1914, and is now at a maximum.

There have been many failures of cooperative associations, although there is no reason to believe that the number of failures

of such organizations during a given period varies materially from the number of failures in other enterprises under analogous conditions. It was only natural that the number of failures of cooperative associations should be especially large following the World War, during the period of falling agricultural prices, just as the number of business failures in cities should be and was very large. The causes of the failures appear to be similar to the causes of failure in other lines. The main cause was *falling* prices. Other causes were poor management, inadequate financing, and too small a volume of business in proportion to the overhead expenses. Some associations purchased, largely on credit, buildings and equipment at war prices, and the subsequent decline in the value of such property, coupled with the decline in the price of agricultural products, was largely responsible for their failure.

Business failures in cities are a natural economic phenomenon which we record statistically from day to day. It is a barometer

DISTRIBUTION OF COOPERATIVE SELLING ASSOCIATIONS, 1923.

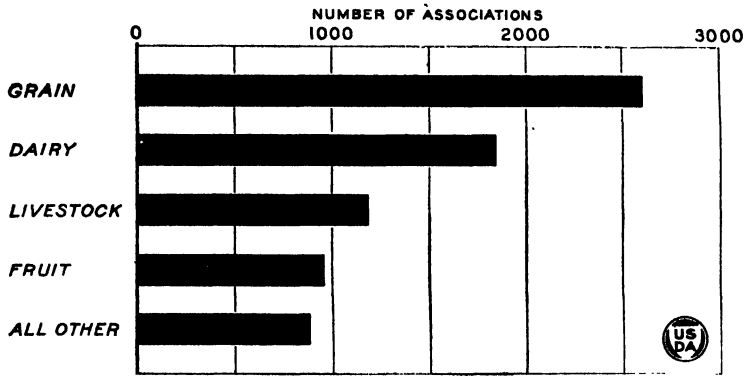


FIG. 20.—Reports received by the Department of Agriculture from farmers' business organizations have been classified according to the kind of enterprises being conducted. It is estimated that there were approximately 12,000 active business organizations at the close of 1923, and that during that year their total volume of business was in excess of $2,000,000,000.

of business activity. It is taken as a matter of course. When a cooperative enterprise composed of farmers fails it flashes across the metropolitan press in glaring headlines. Business failure is the cut and dried method by which society has decreed that the unnecessary enterprises be eliminated.

The Capper-Volstead Act, which became a law on February 18, 1922, specifically recognizes the right of farmers to associate for the purpose of marketing their products. This act clears the way for cooperative effort.

A principle which can not be too strongly emphasized is that cooperative associations will succeed or fail in proportion as they are efficient. The measure of their success will be determined by their ability to perform the marketing functions which they undertake fairly, economically, and efficiently. Success will necessarily be governed by the skill and energy of the management. The State

agricultural colleges could render helpful service by strengthening their courses in economics and marketing and by offering special courses for the training of cooperative managers.

Outlet for Meat Widened.

Through efforts of this department and the Department of State during the past year a wider market for domestic meats, particularly pork, has been made available. The most recent evidence of this is the opening the Netherlands to shipments of pork. This new market, together with the English market, which was opened to the same products about 18 months ago, now gives the farmers of this country a considerable additional outlet at a time when production is at a high point.

The Government of the Netherlands requires that fresh pork shipped to that country shall be handled under certain specified conditions. These conditions have been met as a result of modifications agreed upon after suggestions were made by this department. It is expected that this new arrangement will result in a great deal of new business, just as resulted from arrangements made with England which removed any doubts regarding the wholesomeness of American fresh pork.

Up until about a year and a half ago there had been no fresh-pork trade between this country and England, but during the past year this trade amounted to practically 20,000,000 pounds, the equivalent of well over 100,000 mature hogs.

It is hoped that other importing nations may come to understand the exceptional cheapness and wholesomeness of our pork and be willing to remove the restrictions which seem to work to the disadvantage of their consumers as well as our producers.

New Organization in Effect.

Adjustment of the work of the department to the new plan of organization which went into effect July 1, 1923, has been going forward satisfactorily. Broadly speaking, the new organization provides for the coordinating of the three main divisions of department work, each under a directing head. The offices of director of scientific work and director of regulatory work were provided for prior to the past year. The newly created office was director of extension work.

The director of scientific work is expected to coordinate and supervise all activities looking to the finding of new scientific facts. The director of extension work has charge of all branches active in the sending out of these new facts and other information to the public. This work is done largely through extension agents in cooperation with agricultural colleges. The director of regulatory work has charge of the administration of the numerous laws coming under the department. His work is very closely associated with scientific work, as research along scientific lines is necessary in the administration of many laws.

Another important feature of the plan of reorganization is the establishment of the Bureau of Home Economics. This bureau is in charge of a woman, scientifically trained and experienced, and

has a program outlined which will greatly strengthen our scientific knowledge of foods and problems affecting the women of this country.

The editorial and distribution work, formerly the division of publications, has been placed in charge of an assistant directly responsible to the Secretary. This position was provided for by the last Congress and makes it possible to materially strengthen this phase of our work.

Home Economics Work Strengthened.

With the establishment of the new Bureau of Home Economics coordination and cooperation of the work already being carried on has been made possible. Plans have been made to begin research in new fields which must be explored scientifically if the department is to render the greatest service to the home maker. Problems will be undertaken according to their relative importance to home makers as far as the department is able to determine them.

At a conference of home-economics specialists called by the department last summer it was expressed and agreed upon that the new bureau should undertake research work in the following subjects: Food and nutrition, clothing and textiles, economics (including household management), equipment, eugenics, and art in the home. Among these recommended subjects we hope to stress particularly economic studies, experiments in the field of textiles, and clothing and equipment studies. Under the economic phase of this work standard-of-living studies appear to be greatly needed to furnish information of fundamental importance. The factors entering into clothing costs are not sufficiently established, and detailed study along this line is highly important. There is a wide field of work in the continuation and extension of the economic use of food. Studies of the cost of housing are at present acutely needed. Very little information is now available to the housewife to help her in choosing textile materials and clothing, and it appears very urgent that something should be done to furnish the housewife with reliable guidance in her purchases of household equipment.

These are only representative of the many problems confronting this new bureau, and indicate the great field of research work which this department should explore if it is to be of the utmost help to farm and city women.

Scientific Research.

In the field of scientific research many things have been done during the year which are valuable contributions to both scientific and practical agriculture, and to various industries. Many of the new discoveries are plainly contributions which should make living easier and more comfortable. It is not possible to enumerate all of these additions to knowledge which cover a great variety of subjects, including plants and animal breeding, cultural methods, means of fighting insect, animal fungus, and bacterial enemies of crops and animals, and new methods for handling crops after they have left the farm. The reports of the various bureaus contain much detailed information and are available in limited numbers.

Results of research work on animal parasites afford striking evidence of the practical value of scientific experimentation. One of the most conspicuous examples is the discovery that carbon tetrachloride is an effective remedy for the removal of hookworms of dogs, a discovery which has led to the wholesale application of this treatment against hookworms of human beings with great success in many parts of the world. Investigations regarding roundworms of sheep and swine have made it possible to overcome, to a large extent, the enormous losses caused by these parasites.

A unique, practical method for the prevention of damage to the harvested fruit of Florida oranges and grapefruit by stem-end rot during transportation, storage, and distribution has been developed to the stage of commercial application. The economic importance of this reduction of distribution hazard and prevention of waste of wholesome fruit is readily apparent when it is remembered that these two crops in Florida alone now yield from 13,000,000 to 16,000,000 boxes each year.

Recent studies of the salts carried in irrigation water have given a somewhat different point of view for the consideration of alkali troubles in irrigated lands. In many districts the chief concern of the irrigation farmer is to prevent accumulation of alkali salts in harmful quantities in good land, rather than to reclaim salty land for use in crop production. These observations indicate the importance to the irrigation farmer of understanding the character of the soil solution and of using irrigation water in such a way as to prevent the accumulation of excessive quantities of soluble material from the soil.

Two different methods have been developed for determining the total quantity of colloidal material in soils and it has been found that colloids constitute a far larger part of the whole soil than previously had been thought, some of the heavier soils containing from 60 to 70 per cent. Progress also has been made in determining the properties of the colloids present in different soils. With these facts established it should be possible to gain a more correct insight into the chemical processes of the soil than has hitherto been possible. It is now possible to get a better insight into the nature of soil composition, and the new methods are applicable in the study of agricultural soils, of material used for building levees and foundations, of drainage and irrigation conditions, and of geologic formations.

By modifying the process ordinarily used in the preparation of ammonium phosphate so as to include the use of commercial potassium chloride, as well as phosphoric acid and ammonia, it has been found that a product containing all of the essential constituents of fertilizer, and of corresponding concentration, may easily be obtained. Chemical and physical properties of this material make the new method admirably suited for preparing fertilizer material for transportation. Manufacturing concerns have taken such an interest in this process as to express a willingness to test it out on a commercial scale.

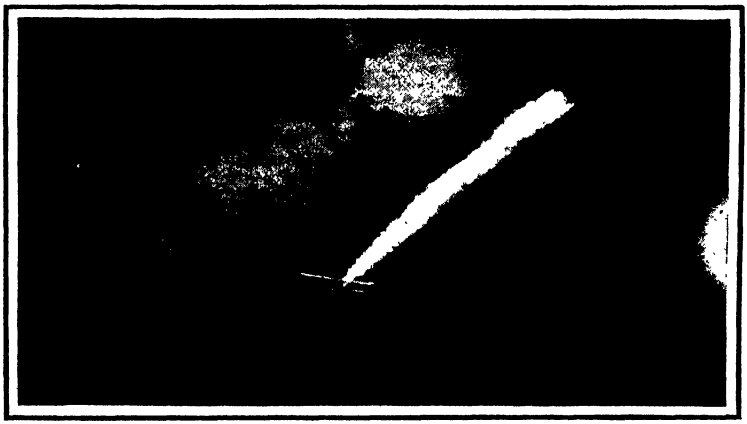
A laboratory to develop work on the chemistry of crops was established during the year. There is need for work concerning the influence of environment on the chemical composition of crops, including certain features of fertilization, such as the relation of composition of crop to the time of fertilizer application. Past work

on the composition of agricultural crops has been directed chiefly toward what may be termed the quantity viewpoint. The new work is directed more toward the subject of quality. The chemist is now seeking to learn whether or not there is danger of producing quantity at the expense of nutritive quality. For instance, it is known that the application of a certain fertilizer, say, sodium nitrate, at a definite time, as one month after sowing, to a crop like corn will increase the yield quantitatively. However, practically nothing is known about quality relations; that is, whether the proteins, vitamins, or mineral components of the corn so fertilized are superior or inferior for animal and human nutrition. The economic value of improvements in quality resulting from this research may exert a marked influence upon future agricultural practices.

The physical investigations conducted at the Arlington Experiment Farm, Arlington, Va., and elsewhere, with and without the cooperation of other agencies are fast providing a scientific basis for highway design, reducing uncertainty to a minimum and assuring a greater degree of economy in highway construction expenditures. As a result of observations made at the Bates road in Illinois, a design for one of the types of highway surface has been formulated which will reduce the cost by $1,500 a mile without decrease of strength. The department cooperated with the Illinois Department of Public Works and Buildings in this investigation.

Insect Enemies.

The fight against insect enemies, which grows year by year, involves the use of various methods for eradication and control and for preventing the introduction of new kinds from other



DUSTING COTTON WITH AIRPLANE.

FIG. 21.—Experimental work with airplane has given assurance that calcium arsenate can be applied by this system more cheaply than by hand under satisfactory conditions.

countries. During the past year progress has been made in introducing insect enemies of the corn borer from Europe. During 1922 more than a million specimens of one species were liberated in the New England area. Arrangements have been perfected with

the Canadian department of agriculture to supply colonies of this parasite for possible establishment in southern Ontario, where the corn borer occupies a large part of the peninsula bordered by Lakes Ontario, Erie, and Huron. Another parasitic species which first

ADULT BOLL WEEVIL AND LARVA.

FIG. 22.—The adult weevil lays its eggs under the surface of the squares or bolls where they hatch their young larvæ. The larva hatches from the egg inside the boll and begins to feed on the tissues, thus destroying the form and preventing maturing of the fruit.

was liberated in Massachusetts in the fall of 1922 has been recovered from the field in several different localities in New England, and the establishment of this species there seems now assured. There were no developments of great importance in the corn borer situation during the past year.

Study of calcium arsenate dusting methods for checking cotton boll weevil infestation showed that some success has been achieved by this means. Severe weevil infestation in 1922 caused a more extensive use of calcium arsenate than ever before, and a shortage of this material developed. A special investigation was made of the results secured by approximately 1,100 farmers who dusted altogether 125,485 acres of cotton. These farms were quite uniformly distributed over practically all of the Cotton States. Slightly more than 96 per cent of the farmers using calcium arsenate were successful in controlling the weevil to the extent of making the operation profitable. The average increase in yield upon these farms was 339 pounds of seed cotton per acre. Special studies were conducted to determine the minimum yield per acre on land where dusting with calcium arsenate would be justified by the results obtained. It was found that in general the season's dusting on any particular farm should cost not to exceed the current value of 100 pounds of seed cotton per acre in order to make a profit by the dusting method.

Black Stem Rust of Wheat.

The barberry eradication campaign, the objective of which is the control of the black stem rust of wheat and other cereals through the eradication of the common barberry, which is the intermediate host

of this destructive fungus disease, has been systematically prosecuted during the year in 13 States of the Mississippi Valley and the Great Plains region, where it was begun in the spring of 1918. The initial survey has been completed in Wyoming, and but few counties remain to be covered in Colorado and Montana. During the entire campaign more than five and three-quarter million bushes have been located on more than 55,000 properties. These are destroyed by thorough uprooting or by the application of common salt or diluted sodium arsenite where the conditions render these materials practicable and safe.

White-Pine Blister Rust.

Field surveys during the past season by Federal, State, and Dominion scouts have disclosed that the destructive rust of five-leaved pines, which in western North America was first observed on pines and currant bushes in southwestern British Columbia in the autumn of 1921, is widespread throughout the coast belt of British Columbia. As several large areas in that Province have been found where the disease is epidemic on pines, and the advance infections have been found on pines within 100 miles of the international boundary and on cultivated black currants within 35 miles of that boundary, the situation must be regarded as serious. The climatic and topographic conditions of the western region and the host plants involved are markedly different from those in the east, so that eastern methods will presumably require considerable modification to adapt them to the western conditions.

War on Tuberculosis.

Rapid advances were made in the cooperative campaign to eradicate bovine tuberculosis. An increase of 76 per cent was made in the number of herds of cattle officially accredited as free from tuberculosis. At the close of the fiscal year there were 28,536 such herds, comprising 615,156 cattle, and there were under supervision more than 400,000 herds containing nearly four and a half million

PROGRESS OF BOVINE TUBERCULOSIS WORK, 1918–1923.

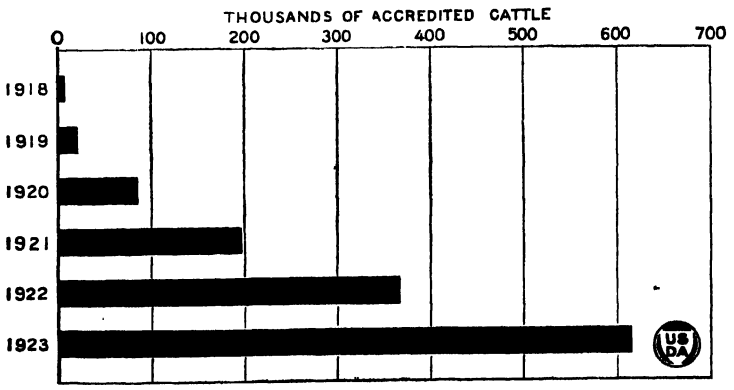


FIG. 23.—Rapid strides have been made in the eradication of bovine tuberculosis. The number of accredited cattle increased from practically nothing in 1918 to over 615,156 head in 1923.

cattle. Unfilled applications for testing nearly a million additional cattle were on file.

The plan of eradicating tuberculosis from circumscribed areas, with the county as the unit, has met with marked success. Fifty additional counties were freed during the year, raising the total to 81. Arrangements have been made to accord special facilities for shipping cattle from counties known as "modified accredited areas" without the usual quarantine restrictions. In the course of the year's work the tuberculin test was applied to nearly three and a half million cattle. Those found diseased were slaughtered under inspection, as a rule, and indemnity was paid to the owners. Larger financial support is being provided by States and counties, and the work is growing in favor with cattle owners.

Improvements in Breeding and Feeding.

The systematic effort to improve domestic animals in the country, which began nearly four years ago under the slogan "Better Sires—Better Stock," continues to grow and is now a project of considerable size and importance. At the close of the fiscal year, 11,533 livestock owners had filed with the department written pledges to the effect that they have placed their farms on a strictly purebred-sire basis and agreed to use good purebred sires exclusively in their breeding operations for all classes of animals kept.

Results of a questionnaire study on current livestock problems and how farmers are meeting them show briefly that in the experience of nearly 500 livestock owners the general economy of rations, the cost of grains, and more specifically the cost of protein, represent more than half of all feeding difficulties. The question of balancing rations is next most important. Livestock of improved breeding were reported in the great majority of cases as making greater gains or producing more than scrubs or common stock when fed in the same way. The average superiority of improved stock in the use of feeds, as shown by financial returns, was 39.6 per cent over common stock.

Wild Animal Pests.

From the beginning the department has maintained that eventually it would be practicable to destroy completely some of the worst animal pests, and thus forever eliminate the heavy losses they have been causing. Through the campaigns against them, prairie dogs have been exterminated on considerable areas, and the large wolves, of which 4,900 have been killed, are being so reduced in numbers that over most, if not all, of the West their end is in sight.

The best evidence of the growing appreciation of the practical value of campaigns against animal pests in the West was given by the legislatures of 13 States in the winter of 1923, which made total appropriation of about $647,000 for cooperation in the work during the following biennium.

Improved poison combinations and their systematic distribution have been so successful that poisoning is rapidly superseding other methods of predatory-animal control. The great increase in territory that can be covered by poisoning campaigns, as now conducted, for the first time offers a possibility of eliminating coyotes over vast areas. This has hitherto appeared doubtful, owing to the numbers

and wide distribution of these pests. More than 200,000 square miles were covered by organized poisoning operations during the year, and at carefully established poison stations on this area more than 1,703,000 specially prepared poison baits were distributed.

Clearing the ranges of coyotes is proving a boon to the cattlemen as well as to the sheepmen, for with the practical elimination of the gray or timber wolf over much of the range country of the Western States, cattlemen have discovered that heavy losses of calves, heretofore attributed to wolves, have evidently been due to coyotes.

A national drive undertaken against house rats, both through publicity and demonstrations, has developed widespread community sentiment against these destructive rodents, as evidenced by the steady growth of organized campaigns to destroy them and to eliminate their sources of food and harborage.

Importance of Weather Work.

The department is making its weather work pay back to the Nation many hundreds of dollars for each dollar expended. The forecasts issued twice daily for all sections of the country and

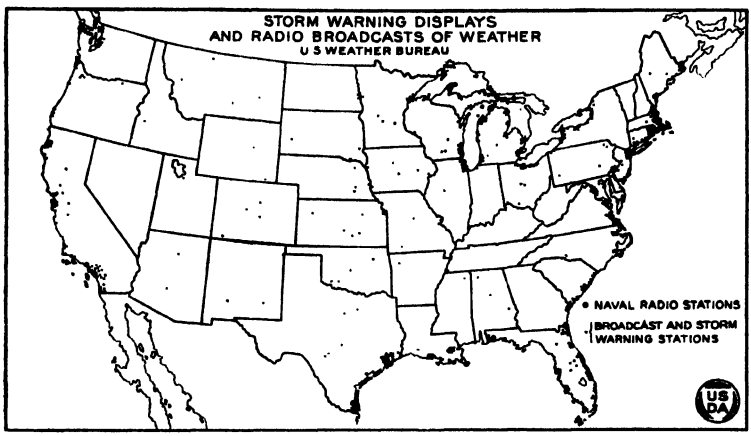


FIG. 24.—For forecasting purposes the country is divided into five districts, with forecasting centers at Washington, Chicago, New Orleans, Denver, and San Francisco. Radio is now used extensively in the distribution of these forecasts. Naval radio stations, 27 in number, are used primarily for broadcasting forecasts and warnings for ships at sea. Interior stations, 117 in number, located in 38 States, broadcast daily weather forecasts, frosts, cold waves, heavy snows, and other warnings. Storm-warning displays (flags and lanterns) are made at 167 coastal points on the Atlantic, 65 on the Gulf, 44 on the Pacific, and 109 on the Great Lakes.

warnings of frosts, cold waves, storms, heavy snows, whenever conditions warrant, all of which are widely and effectively distributed through newspapers, by telephone, telegraph, radio, maps, bulletins, cards, and other means, meet general requirements, but the rapidly increasing utilization of weather information by many business industries is resulting in requests for more special forecasts and direct service.

In addition to the hundreds of thousands of receiving-set owners who receive the forecasts by radiophone, large numbers of whom can obtain them in no other way, many repeat them to their neigh-

bors by telephone. This latter form of service has become so potential that arrangements are in hand for a definite form of organization which will replace the telegraphing of forecast messages now sent to centers for distribution. It is expected that more effective service will be accomplished thereby and that considerable economy will result.

It is estimated that the value of perishable products saved as a result of cold-wave warnings issued last winter for the Chicago district alone exceeded $10,000,000, although the winter was not an unusually severe one. Reports from Alaska, made available through the cooperation of the Signal Corps of the Army and office of communications of the Navy, were an important factor in making the warnings timely and accurate. Alaskan observations were an equal factor in the cold-wave warnings issued in other commercial dis-

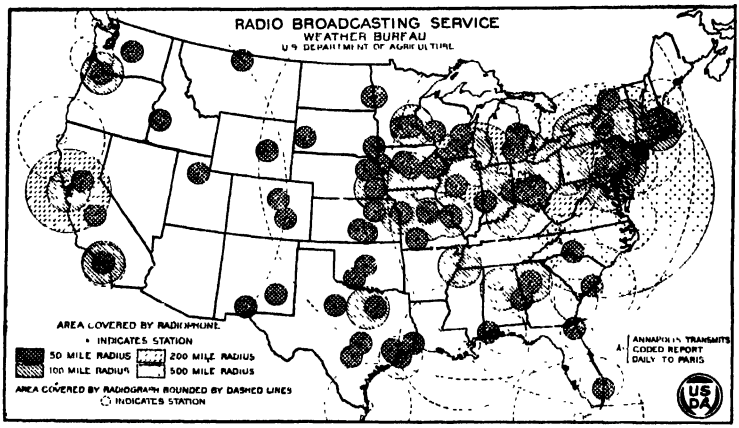


FIG. 25.—There are 27 naval stations and 117 general broadcasting stations which disseminate the daily forecasts of weather, cold waves, frosts, heavy snows, and other weather warnings. Distribution from naval stations is by radiotelegraph and covers forecasts for the entire country. Broadcasts from other stations are by radiophone and include forecasts for the sections within their range. Under favorable conditions the ranges are much greater than those indicated on the map. Radiophone broadcasts are primarily for the benefit of farmers who can not receive the forecasts promptly by any other method of distribution.

tricts. An organized unit of the Weather Bureau has been in operation in Alaska since 1916, and its activities have been of great value to the commercial and marine interests of the United States.

Flood warnings proved of great value during the year. During the Arkansas Valley flood livestock and other property to the value of $1,350,000 was reported as having been saved by flood warnings sent out well in advance. The total reported flood losses during the year were $36,591,362, while the value of portable property saved by flood warnings was given, in admittedly incomplete returns, as $4,240,465.

During the year schemes for forecasting river stages and floods have been completed for the Willamette River system of Oregon, the Connecticut River, and the Brazos River of Texas. Other schemes will be undertaken as time will permit, mainly for the smaller rivers, as those for the larger rivers and their tributaries are virtually complete.

With the advent of the practical navigation of the air a whole new service is now demanded, a service of flying weather forecasts and weather advices to aviators. This compels the bureau to get above the surface and extend its observations, measurements, and

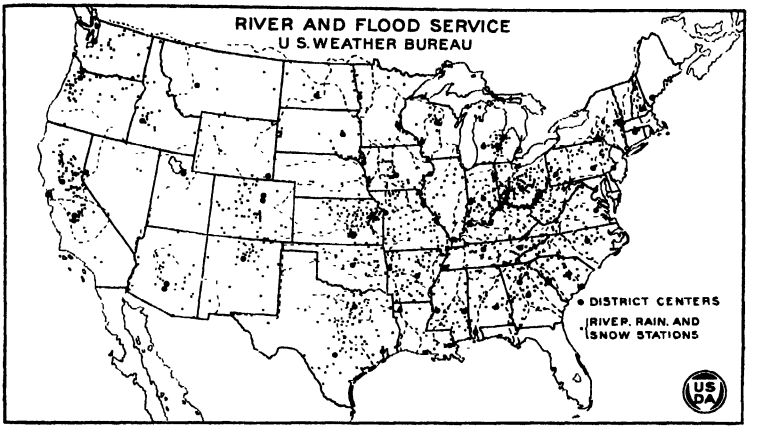


FIG. 26.—The district centers issue river forecasts and flood warnings; also, in the western mountain districts forecasts in the spring of the amount of water from the accumulated snow that will be available for irrigation and water-power purposes. River forecasts are made not only for the purpose of giving warnings of floods but also as aids to navigation all times of the year.

advices into the free air, which is being done in a very limited way at the present time by means of kites and little so-called pilot balloons.

Headway with Highways.

Eight thousand eight hundred and twenty miles of Federal-aid roads of all types were completed during the fiscal year, which, added to the mileage completed prior to the fiscal year, brought the

FEDERAL AID TO STATES ON PROJECTS COMPLETED AND UNDER CONSTRUCTION.

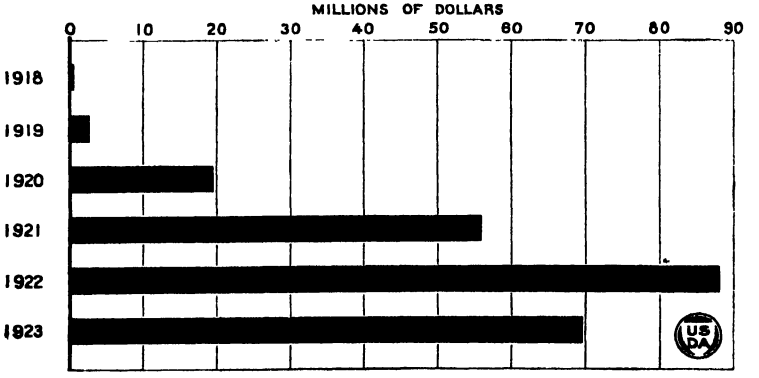


FIG. 27.—The Federal-aid roads are jointly financed by the Federal Government and the States. Federal-aid payments amount to about 43 per cent of the total cost of Federal-aid roads. The total payments made by the Federal Government prior to June 30, 1923, exceeded $236,000,000.

total of completed projects up to 26,536 miles. The projects under construction at the close of the year amounted to 14,772 miles and were estimated as 53 per cent complete.

The total amount of Federal aid actually appropriated for use up to and including the fiscal year 1923 was $375,000,000. Of this amount, $364,250,000 was apportioned among the States.

The total mileage of highways in existence at the time of the passage of the Federal highway act, as certified by the State highway departments, was 2,859,575 miles. Under the law the maximum mileage that can be included in the entire system is 200,170 miles. The mileage included in the 35 systems approved up to the close of the year was 111,699 miles, and the total length of the whole system, when it is finally designated and approved, will probably not exceed 179,000 miles.

Analysis of the approved systems for the 35 States shows that of the 1,111 cities of 5,000 population or more in these States 1,049 of them lie directly on the approved system. When the Federal-aid

A CONCRETE FEDERAL-AID ROAD NEAR EASTON, PA.

FIG. 28.—More than 26,000 miles of Federal-aid roads have been completed as a part of the Federal-aid highway system of 170,000 miles to be improved by the Federal Government in cooperation with the States.

system is correlated with roads constructed by the States and counties, as it doubtless will be, the remaining cities of this class will certainly be connected with the main interstate system, and one will be able to travel from any point in the country to almost any hamlet, however remote, without leaving an improved road for more than a few miles at most.

The indications are that these roads, when they are completed, will pass within 10 miles of the homes of 90 per cent of the people of the United States, considering the country as a whole. In some States the percentage of the population thus served will be still greater, reaching close to 100 per cent in a number of instances.

Tobacco Growers Benefited.

Field tests conducted on "tobacco-sick" soils in the Connecticut Valley have brought out marked differences in the effects of various crops on the growth of tobacco following in the rotation.

In extensive field test in the southern manufacturing and export tobacco districts it has been demonstrated that mixed fertilizers containing 2 to 3 per cent potash and applied at the usual rate of 800 to 1,000 pounds per acre frequently do not supply sufficient potash for the tobacco crop. As a result, characteristic symptoms of potash hunger are frequently observed in the field. On light soils, and especially in comparatively wet years, equally unfavorable results may be expected when a sufficient quantity of magnesia is not contained in the fertilizer or otherwise added to the soil. The quantity of magnesia required by the crop, however, is comparatively small—perhaps not more than half that of the potash which is needed. With constantly decreasing supplies of cottonseed meal and other similar materials containing appreciable quantities of magnesium, it is apparent that there will be greater necessity for making special provision for magnesium in the fertilizer mixture.

Possibilities of Rubber Production.

On the basis of a special appropriation for this purpose, more extensive investigations of rubber-producing plants are being undertaken to determine the possibilities of producing rubber in the United States or in adjacent tropical regions. The need of developing other sources of supply is shown by the rapidly increasing consumption in the United States and the serious danger of supplies from the East Indies being interrupted. About nine-tenths of the world's supply of crude rubber now comes from the East Indian plantations, while three-quarters of the total supply is used in the United States. These two facts are a standing challenge to both agricultural scientists and business men.

In view of the large number of plants that are known to produce rubber and of the wide range of diversity among such plants in habits and conditions of growth, adequate determinations of cultural requirements and possibilities are not to be expected until many observations and experiments have been made. Facilities for experimental work are being extended in the different regions where rubber-producing plants can be grown, and expeditions are being sent to foreign countries to study the habits of the plants under native conditions and to secure the best stocks for propagation and breeding purposes, so that vigorous, high-yielding strains may be developed as the basis of production.

Under the existing world conditions it is clearly desirable that a thorough study of the potential rubber-producing plants of the world be carried forward vigorously and without interruption, with a view to ascertaining the most promising sources of increased supplies of rubber to meet the increasing requirements of our industries and of the users of rubber, who now constitute practically the entire population of the country.

Binder-Twine Fibers.

Some years ago cooperative work was organized by the office of fiber investigations and the Philippine Bureau of Agriculture, the

purpose of which was to encourage the increased production of sisal and maguey fiber in the Philippine Islands. In view of the rapidly increasing consumption of abaca (Manila hemp) for binder-twine purposes, this cooperative work has been expanded to include necessary work with abaca. It is entirely possible, if not probable, that the ultimate solution of our binder-twine fiber problem will be an increasing substitution of abaca for henequen in the manufacture of binder twine.

In cooperation with the Philippine Bureau of Agriculture and with the bureau of science and the college of agriculture, preliminary steps have been taken during the present year to organize this work. An increased use of abaca for binder-twine purposes will benefit both the United States and the Philippine Islands, and should be encouraged in every way possible.

Continued improvement has been made in the quality of the Philippine machine-cleaned maguey fiber. American manufacturers report that this fiber is now entirely satisfactory for binder-twine purposes.

Important Manufacturing and Handling.

Work on production of cane sirup of uniform quality was carried forward, as a result of which farmers producing cane sirup were enabled to consolidate their output on a sufficiently large scale and into such a uniform product as directly to interest brokers and wholesale grocers in the distribution of their product in a systematic manner. A central blending and canning plant, with a daily maximum capacity of 5,000 gallons, equivalent to 500,000 gallons for a 100 days' operating season, was designed for the Texas Farm Bureau Ribbon Cane Growers' Association. This plant was erected at Lufkin, Tex., and operated during the season of 1922–23. Cane sirup from various sections of eastern Texas was shipped by members of the association to the Lufkin plant, where it was graded, mixed to insure uniformity of grade, treated by the invertase process perfected by the department to prevent crystallization, canned, labeled, crated, and marketed. Technically the operation was an unqualified success. A study was made of the manner of producing cane sirup on the farms, and directions showing how the quality of the product could be improved were distributed to farmers.

Work on methods for profitably utilizing cull and surplus oranges and lemons has been done. Investigations in previous years helped to establish industries manufacturing useful products from oranges and lemons that otherwise would go to waste. In the last (fiscal) year effort has been directed toward perfecting methods for the commercial production of pectin from waste orange and lemon peel. Pectins produced by various methods have been standardized as to their jellying power, and work has been done on the production of jellies of different consistency. Attention has been given to the preparation of marmalades and jellies from dehydrated oranges. As a result of the studies on the production of pectin, new methods for the preparation of marmalade and orange butter have been evolved.

A method for determining the degree of maturity of cantaloupes, depending upon the sugar and solids content of the fruit, was developed by the Bureau of Chemistry and used with gratifying results

by growers and shippers of cantaloupes. A criterion of maturity for selecting the time to pick melons has long been sought by melon growers.

The Extension Service.

There was noteworthy progress during the year toward the adjustment of the cooperative extension work of the department to new conditions, with a view to its functioning under the supervision of a director of extension work, as provided for by act of Congress. The effort has been to unify the work for the men, women, and boys and girls on the farms and to enlist all extension agents in the promotion of the enterprise as a whole. Probably the most marked development in the extension work during the past year was the increased emphasis given to the development of unified farm and home extension programs based upon the actual needs and interests of each community.

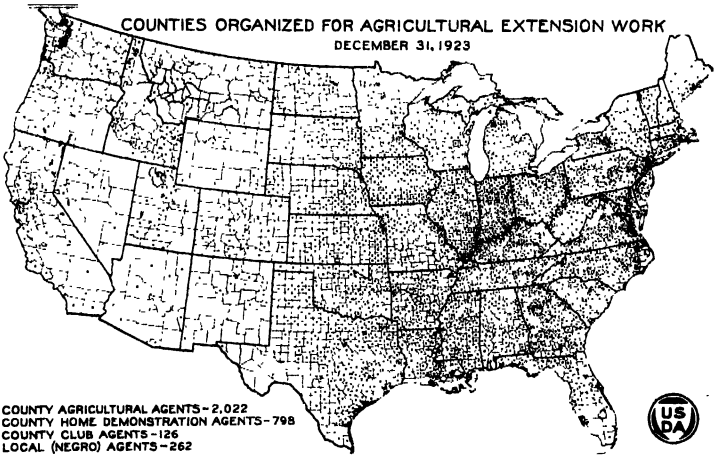
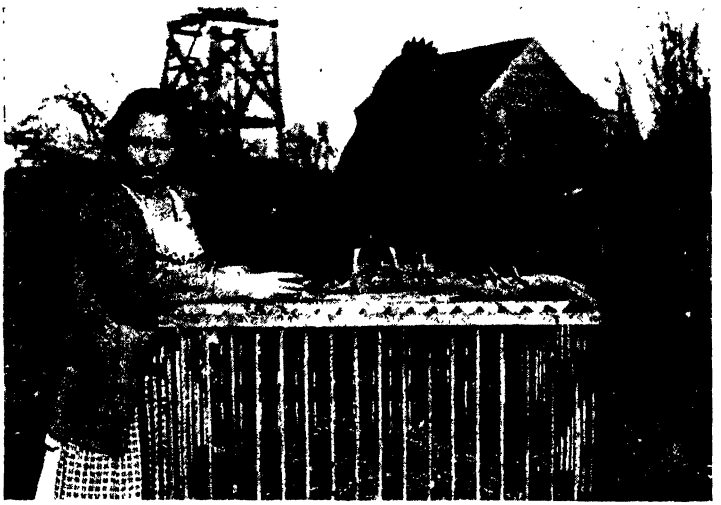


FIG. 29.—The above map shows the location and extent of organized extension work in agriculture and home economics carried on by the Department of Agriculture in cooperation with State agricultural colleges.

Approximately 4,670 persons are now employed in the cooperative extension service in agriculture and home economics carried on by the department in cooperation with the State agricultural colleges. About 2,100 counties have agricultural agents, 840 have home-demonstration agents, and 160 have agents working exclusively with farm boys and girls. In addition, 800 specialists in different phases of agriculture and home economics are employed to aid the county extension workers and to give advice and assistance in special and emergency situations. It is estimated that farms and farm homes adopted not less than 4,000,000 improved practices through the efforts of the extension workers during 1922, of which at least 924,000 were brought about through home-demonstration work. The total enrollment in boys' and girls' club work during 1922 was approximately 600,000, and 358,000 reports meeting all requirements were received. The total value of all products reported produced by club members was approximately $8,650,000. There was an increase dur-

ing the year in the number of negro extension agents employed. There are now 294 negro field agents, and substantial progress in the work of these agents is reported.

The exhibits prepared to illustrate the department's work and the best agricultural practices have proved their value by the great increase in the demand for them from fairs, expositions, conventions, farmers' weeks at State colleges, and from various other sources. A conservative estimate places the number of persons who viewed these exhibits in 1922–23 at 8,836,000 and the number of exhibitions at 114. Specially designed exhibits have been used for calling attention to methods for controlling the white-pine blister rust, the eradication of tuberculosis in livestock, the prevention and control of forest fires, the desirability of good roads, the saving of land from erosion, maintaining the health of farm animals, and for various other purposes. The exhibits are all prepared after discussions by



BOYS' AND GIRLS' CLUB WORK.

FIG. 30.—One of the 600,000 young farm folks who took an active part in boys' and girls' club work during the past year. The combined value of their products was in excess of $8,000,000.

men in the various bureaus, and consequently they represent the best information to be had on each subject.

The increase in the demand for exhibits over the preceding year shows the department has found in them a very desirable method for reaching the people who can make use of its information. There was a 26 per cent increase in the number of persons viewing them and an increase of 63 per cent in number of exhibitions.

The past 12 months have been a notable period in the history of the motion-picture work of the Department of Agriculture. The motion-picture office and laboratory now occupies a modern, fireproof building. An outstanding development is the striking increase in the known audience reached by the films. Every user is asked to report the number of people to whom he shows them. The audience, as actually reported for 1922, was 1,937,570: as actually reported

for 1923, 4,460,077. Allowance should be made for possible exaggeration, but this consideration is balanced by the fact that many users failed to report their showings. In addition, there are no figures available in regard to the exact size of the audiences reached by the department films that have been bought by cooperating or outside institutions. As such purchased films outnumber the films owned and circulated by the department, and as many of the purchasers are known to be actively and continually circulating the films to large audiences, figures on this circulation probably would compare favorably with the figures reported to the department.

The growth of distribution would seem to be a fair indication of the value of motion pictures in the department's work, but the figures are not more impressive than the written expressions that come frequently from users of the films. These statements in general are to the effect that the films have a remarkable effect in attracting large crowds to meetings, stimulating interest in the subjects under discussion, giving clear conceptions of unfamiliar ideas, and furnishing inspirational impetus to campaigns for community betterment.

Packers and Stockyards Act.

In accordance with the general policy of the department to administer all regulatory statutes assigned to it in a constructive and helpful manner and under the broad general authority provided in the packers and stockyards act, a study of economic conditions and problems applicable to the livestock and meat-packing industry has been made both in this country and abroad. These studies have related chiefly to methods of distribution and competitive practices and conditions, and an effort has been made to give the public assurance of the wholesomeness and desirability of meat in the diet.

Some important cases involving the activities of leading packers of the country were handled during the fiscal year. One of these was pending at the first of the year in connection with which complaints had been made alleging unfair, unjustly discriminatory, and deceptive practices. The case was considered through formal hearings and special investigations, and an appropriate order was issued to cease and desist from following certain practices and methods which appeared to be in violation of Title II of the act. Another case involves the validity of the acquisition of the assets, business, and good will of Morris & Co. by Armour & Co. It is the contention of the department that this action will lessen competition in the purchase of livestock and the sale of the products thereof, but the respondents contend that such acquisition was an industrial and economic necessity. This case is pending.

Arbitration of livestock commission rates at six of the principal markets was under way at the end of the fiscal year as a result of a complaint by the leading livestock producers' organizations. Representatives of the complainants and respondents agreed to submit the whole question to arbitration, and two members of the staff of the packers and stockyards administration were agreed upon as arbitrators. An exhaustive investigation was made by the department to furnish the arbitrators with the necessary information for an impartial decision, and a preliminary report was made, the final report coming after the end of the fiscal year.

Cooperative shipping of livestock is generally regarded as an established feature of livestock marketing, and while the cooperative selling of livestock is comparatively a recent development, it has become a substantial factor in the marketing process. With the establishment of these cooperative agencies at some of the principal markets there appeared to be a feeling on the part of some of the old-line agencies that they were justified in fighting this form of competition through the practice of boycotting. Whereupon the administration found it necessary to take action and bring about an understanding that open-market principles must prevail in every respect at public markets.

Other activities have been correction of reweighing charges at a number of stockyards; the valuation of stockyards property as a basis for study of rates and charges; the securing of better prices for bruised, crippled, diseased, and dead animals, and for cattle reacting to the tuberculin test; improvements in the handling of stock in loading and unloading; and audits of the records of commission men at 23 principal markets and of the records of stockyard companies at 18 large markets.

Grain Futures Act.

The grain futures act, after a contest by the Chicago Board of Trade, on April 16, 1923, was held constitutional by the Supreme Court of the United States. The necessary action has been taken by this department and the grain future exchanges, including the Chicago Board of Trade, to continue their operations under this law without interruption. The law requires the prevention of the dissemination of false and misleading information regarding crop or market conditions and prohibits attempts to manipulate or corner the market.. It forbids discrimination against cooperative associations of producers in the matter of membership. It gives the Government an opportunity to ascertain the facts of the business through reports and actual inspection of the records and transactions.

Yet when this department, following the Supreme Court's decision, issued regulations to carry into effect these provisions by requiring daily reports and access to the records, propaganda immediately developed from within the exchanges that the grain futures administration was responsible for the decline in the price of wheat. It was contended that the new regulations had decreased the volume of trading and, therefore, the price of wheat, on the ground that in effect the regulations placed a limit on trading and that speculative buyers were frightened away because their names and volume of business transactions might become known, notwithstanding that this would be at least equally discouraging to speculative sellers. As a matter of fact, no limit upon trading was specified and neither the law nor the regulations interfere with the volume of either hedging or speculation, so long as there is no attempt to manipulate or corner the market. No satisfactory explanation was given by those responsible for the propaganda as to why the price of corn rose under the same law and administration. They did not attribute a later rise in the price of wheat to the law or its administration, notwithstanding the fact that there had been no change in either.

Steps have been taken to coordinate governmental sources of information so as to combat the dissemination of false and misleading information about crop and market conditions. Supervisors

are stationed at Chicago and Minneapolis and contacts arranged with the other markets to enable the department to keep in touch with current business operations. The administration is informing itself, as rapidly as a suitable organization can be developed for the purpose, in regard to the facts of the business, so that when a reasonable time has elapsed it may be able to assure Congress and the public that it has actual facts upon the general phases of future trading that are of public concern.

Insecticide and Fungicide Act.

The enforcement of the insecticide and fungicide act has had a marked effect upon the industry engaged in the manufacture and sale of insecticides and fungicides, and each year sees progress in the direction of more truthful labels and a higher standard of quality in the products on the market.

During the year the board has devoted a large part of its time to campaigns designed to improve the quality and labeling of Bordeaux mixture and Bordeaux-lead arsenate mixture, campaigns against disinfectants which were adulterated or the labels of which bore false or misleading claims, calcium arsenates which were deficient in active ingredients or which contained ingredients injurious to vegetation, so-called pine-oil disinfectants and coal-tar dips which were adulterated with mineral oil, insect powders adulterated with powdered daisies, and alleged boll-weevil remedies.

The industry has made tremendous strides since the inception of the regulatory work, and the board is constantly confronted with new problems. Each year sees a new crop of insecticides and fungicides. Some represent new manufactures of the recognized standard remedies, but there is always a certain percentage of new theories of treatment represented by these new articles. As a result of the widespread ravages of the cotton boll weevil, various new so-called remedies have appeared on the market. The board has attempted to collect all of these with the idea of submitting them to analysis and test. This is a tremendous undertaking, and it will probably take several years' work before this situation is cleaned up and worthless preparations driven off the market.

The National Forests.

Receipts from the national forests exceeded those during the preceding year by $267,290.71, although the normal revenue from grazing was materially cut down by the depressed conditions in the livestock industry. There was a surplus of $200,000 in income over the regular expenditures for protection and administration, excluding construction and maintenance of improvements, other development work such as timber surveys and tree planting, and emergency expenditures in fire fighting. If the deferred payments of grazing fees allowed during the last three years are credited to the years in which they fell due instead of the years in which final settlement of these open accounts was made, there is shown an actual increase in revenue-producing business last year over the fiscal year 1922 of more than $1,000,000, and over 1920, the year in which receipts were previously at their highest, of more than $540,000.

Not only were receipts from the sale of timber 33 per cent greater than in the best former year, with a total of $2.721,876.20, but such

progress was made in laying out new operating units and preparing for the increased demand for national forest timber, due to the westward movement of the lumber industry and growth in western consumption, as practically to assure a steady increase in future business. At the same time, each new unit where operations are begun is being kept on a perpetual-yield basis.

Fires on the national forests, during a year of more than average hazard, were held down for the third year in succession to a point where only a little more than two-tenths of 1 per cent of the total area was burned over and the loss caused was less than one-tenth of 1 per cent of the total value of the destructible resources protected.

The grazing regulations were worked over to make the system of regulated range use one which will contribute most to the stability of the livestock industry dependent on the forests while maintaining the full authority of the Government to control this use as the public interests may require.

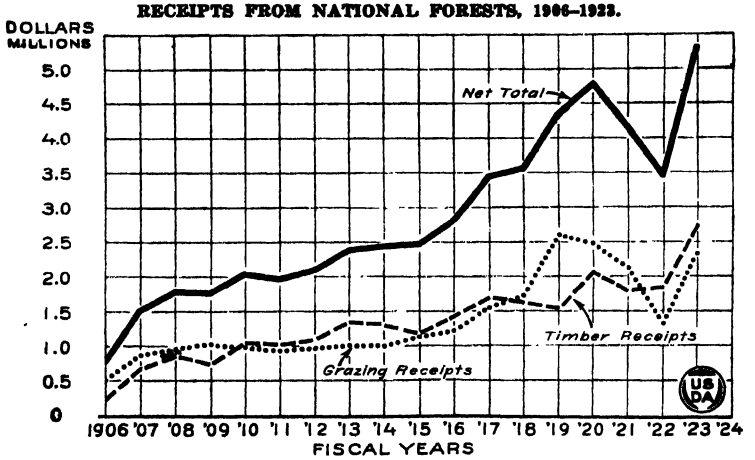


FIG. 31.—The receipts from the national forests have gradually increased until 1923, when for the first time they exceeded $5,000,000. Receipts from the sale of timber were greater than in the best previous year and the grazing receipts were almost as high as in 1919.

The establishment of two new forest experiment stations gives larger opportunity for the research fundamental to the development of the best forestry practice, both public and private.

Economic investigations brought into clearer relief the character and extent of the public burden imposed by devastated and idle forest lands, the relation between timber requirements and our possible timber production, and the future relative need for the agricultural use of land as against forest use.

In the field of industrial investigations an accomplishment of far-reaching importance was scored in the completion of standardized lumber grades for yard lumber and structural timber of all commercial species, both softwood and hardwood. Several important lumber-trade organizations have accepted the proposed standards as practical and desirable to replace the considerable number of widely varying rules or specifications hitherto employed. This work was done in cooperation with the Central Committee on Lumber Stand-

ards, representing lumber manufacturers, distributers, consumers, and professional groups, such as architects and engineers, with the Department of Commerce and the Department of Agriculture acting in an advisory capacity.

Grazing on the National Forests.

The use of the forage resources in the national forests during the past year has reflected the depressed conditions in the livestock industry of the Western States, which have been particularly acute among cattle growers. Enforced liquidation among livestock producers has, at various points, reduced the numbers of stock using national forest ranges and the income from this source; and a small percentage of grazing permittees, particularly in the Southwest, have been unable to pay the fees required by the Forest Service.

STOCK GRAZED UNDER PERMIT ON NATIONAL FORESTS, 1905–1922.

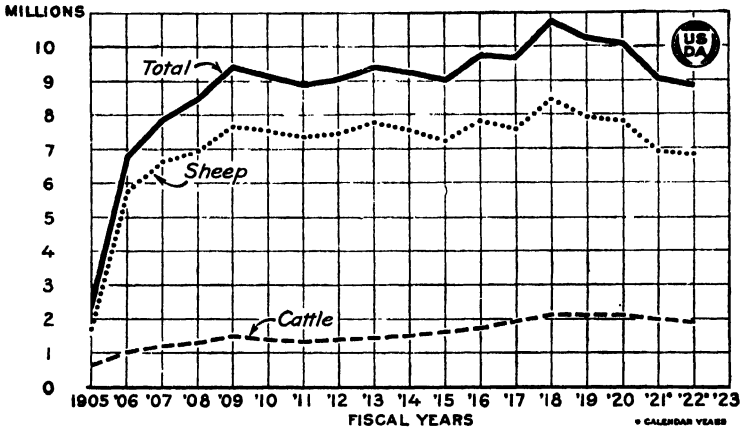


FIG. 32.—Grazing permits granted to local stockmen, to whom a permit is given covering the number of stock to be grazed, together with a description of the range to be occupied. The increase in the number of stock, which began in 1917 and reached a maximum in 1918, was due to efforts of the Government to increase the production of livestock during the war. During the emergency the ranges were crowded to their full carrying capacity. The downward trend since the close of the war was due to the withdrawal of the emergency livestock.

The department has handled this situation in a sympathetic way, with a view to aiding the industry to tide over its present difficulties and recover its normal status. Extensions of time for the payment of grazing fees have been allowed in many cases in connection with unbroken use of the ranges. At the same time it has been necessary to protect the Government in the ultimate payment of the amounts due and to maintain grazing permits on a business basis.

During the year special attention has been given to the revision of the policies and regulations governing grazing on the national forests. This work has been undertaken with a view primarily (1) to aid in the stabilization of the livestock industry in so far as it is dependent upon national forest ranges, and (2) to adapt the use of this pasturage to the economic needs and tendencies of the livestock industry in the Western States, particularly in relation to the most effective use of land. These two objects are, of course, closely related.

When the Department of Agriculture assumed charge of the national forests in 1905 the tide of agricultural settlement was still active in the regions adjoining many of them. In fact, one of the major problems then confronting the department was the classification of the national forests themselves and the segregation of areas which should be made available for agricultural use. The initial grazing regulations were drafted with special attention to the encouragement of the new settler in the many localities where the use of public range was essential to the successful development of farming lands. In many instances this policy necessitated a gradual but material curtailment in the herds of former users of the national ranges and a process of redistributing the grazing privileges among an increasing number of stockmen, including the small herds of new settlers.

The Department of Agriculture should always make the encouragement of rational land settlement a primary object in the administration of both the grazing and timber resources of the national forests. And it should always seek to obtain the closest possible correlation between the use of forage in the forests and the development of adjacent range and agricultural lands. The conditions affecting agricultural development in the regions where it can be aided by the forage on the national forests, however, have changed materially during the last 18 years. The main tide of new agricultural settlement has largely spent itself. At some points, indeed, homestead settlement is receding, owing to the failure of attempts at dry farming. While additional areas will, of course, be placed under cultivation as time goes on, in connection with irrigation developments or otherwise, it is evident that land settlement is not as large a factor as in 1905. It is also evident that by granting longer permits for range privileges the department will not only promote the welfare of the livestock business, and particularly its financial rehabilitation following the present crisis, but also will promote sound economic development and permanency of settlement in these regions as a whole.

The revision of the grazing regulations has consequently been directed primarily (1) toward stabilizing the use of the ranges under permits extending for a period of 10 years, and (2) toward stabilizing the livestock enterprises which the national forests support in part by conditioning the retention of grazing privileges upon the ownership of ranch property or improvements sufficient to afford a well-balanced and efficient stock-raising business. In authorizing grazing privileges under these terms, provision will be made for such redistribution of range use as may be necessary in the future to care for needs of new settlers.

Furthermore, while encouraging more stable use of the national forest ranges in connection with the stock ranches dependent upon them, the Government does not and can not, in any sense, recognize a vested right, or servitude, attaching to the use of the range. The national forests are public properties, created primarily for the production of timber and the protection of water sources. They must be administered so as to render the maximum degree of public service through wise utilization of their varied resources. If the grazing of livestock in any particular locality should clearly become harm-

ful to the regrowth of timber or the security of valuable water resources, the department must be able to reduce or adjust the grazing use or, if need be, to eliminate it altogether. If the economic development of particular regions requires reduction in the herds of old users to make room for the livestock of settlers who need range in developing their homes, the department must have full authority to make such redistribution of the grazing privileges as the circumstances require. The value of the range must be protected, even if that should at times require reduced grazing or a complete temporary withdrawal from use. Adjustments for these purposes should be made only after full consideration of their effect upon interested parties; but the department must retain a free hand to deal with problems or conflicts of this nature as the most vital interests to be served may dictate, and it can not be hampered in such adjustments by the creation of any servitudes on the land which have the nature of vested rights. Within this essential limitation, it is the purpose of the Department of Agriculture to stabilize the use of the national forest ranges in connection with established and dependent stock ranches to the fullest practicable degree.

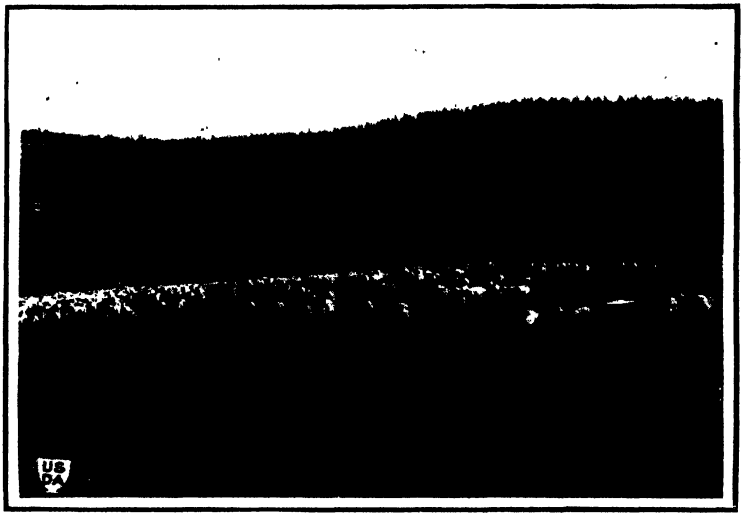
Grazing Fees.

The question of the fees paid for grazing privileges has an important bearing upon the policy of stabilizing range use. Most of the range areas now embraced in national forests were grazed for many years as open commons. When the first grazing fees were established in 1906 they were designedly low, representing approximately the cost of administration rather than the intrinsic value of the forage consumed. A revision of the grazing fees initiated in 1916 and ultimately completed in 1919 increased the charges materially to a point more nearly approaching the commercial value of the forage after making liberal deductions for the past uncertainty of tenure and the cost of compliance with the regulation of the Forest Service.

An extended investigation of the value of western range lands upon which to base a readjustment of the fees charged for national forest grazing permits was initiated in 1921. One of its purposes was to get away from the flat, or blanket, fees charged and to value the individual grazing allotments or districts in accordance with their accessibility, the quality of their forage, their water resources, and other factors obviously affecting their worth to the stockgrower. This is an adjustment necessary as a matter of equity between the different grazing permittees. Another purpose of the reappraisal is to ascertain the actual value of the forage in the national forests as determined largely by comparison with the rates paid for comparable range lands in private ownership in the same localities. With the data collected as a basis, the department is now in consultation with the various groups of stockmen who use the national forests, trying to work out a new schedule of grazing fees which shall represent a fair and reasonable appraisal of the individual allotments, having always in mind the economic status of the livestock industry and the effect of the policies and restrictions enforced by the Government. Owing to the present upset conditions in the livestock industry, no change in grazing fees will be made for the present.

In stabilizing the use of the national forest ranges under the beneficial 10-year permits, it is essential that the relations of the holders of these privileges with the Government be established upon a sound and unquestionable business footing. The forage in the national forests is a commercial resource, exactly as their timber is a commercial resource. The utilization of this resource by a well-established industry no more justifies obtaining it at something less than its actual worth than the lumber industry would be justified in obtaining the timber on the national forests at less than its actual market value.

In other words, the very stability which the livestock industry desires and should have in the use of the national-forest ranges demands that users pay the public fairly for value received. A permanent and settled program of range use which will command public confidence and go forward without interruption can not be predicated on any other basis. The Department of Agriculture is not seeking to charge for the use of national-forest ranges more than a just price. It stands for the allocation of the forage to the stock-growing enterprises most dependent upon it and most logically situated for its efficient use. It stands for a stabilization of this use to the fullest possible degree, so that the livestock industry may prosper and establish favorable credit and banking relations. And, as an integral part of this program, it must require payment for the value of the public resources so utilized as determined reasonably and equitably on accepted business principles.



SHEEP GRAZING ON THE NATIONAL FOREST.

FIG. 33.—Forest rangers count all livestock entering the national forests for grazing thereon. In some instances where scab is prevalent among the sheep owners must furnish the forest officer with a certificate that the sheep are free from scab, which is signed by an inspector of the Bureau of Animal Industry of the Department of Agriculture.

A Constructive Forest Policy Needed.

The difficulties against which the farmers of the country are struggling to-day are dovetailed with the need for a constructive program to increase the production of timber. Many agricultural products

do not bring a fair return upon the capital and labor employed in their production, and cultivation is contracting on many areas of the less fertile or more poorly situated land. At the same time, the country is rapidly draining its diminished supply of timber and adding to the area of idle, cut-over lands which have no possible

NATIONAL FOREST TIMBER SALE AREA.

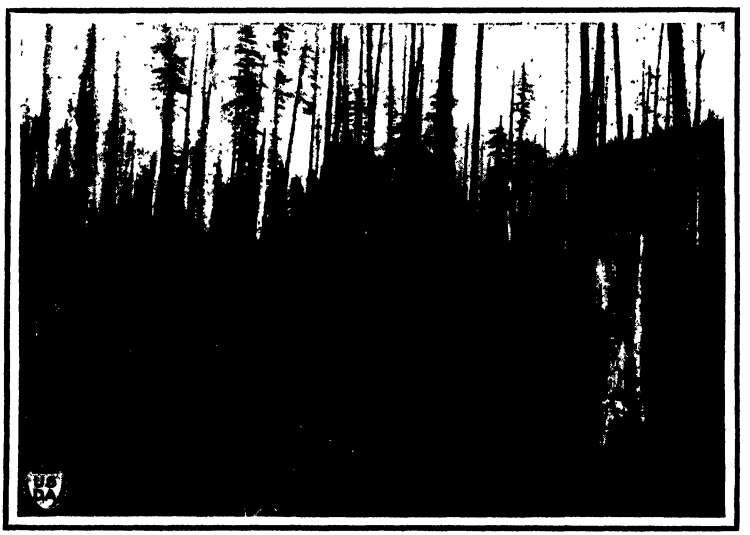
FIG. 34.—An example of the method of cutting in a pine forest under Forest Service regulations. The young trees have been left to grow. The brush has been piled for burning to reduce fire hazard.

agricultural utility. The disposal of logged-off land is becoming a more and more serious problem to its owners, while to the public the economic retrogression resulting from idle land and the burdens resulting from the shortage of timber supplies grows more formidable.

The relative requirements of the country for farm and forest products call for maintaining a forest area approximately equal to the present total, including second-growth, burned, and cut-over land and abandoned farms in timber-growing belts. The cost of forest products, already oppressive, is mounting. Our present supplies of merchantable timber are fast diminishing. Our stock of young timber is wholly inadequate to supply our needs when the grown timber is gone. The forest products obtainable from our entire area of 470,000,000 acres of actual or potential forest land, were it all producing timber at maximum capacity, would only bring production into an approximate balance with present use. At best there will be a long and acute delay before new timber crops equal to our requirements can be matured. And while there is much room for economy in the use of wood and considerable room for use of substitutes, these two palliatives taken together will probably no more than offset the increased consumption which growth in population will demand. We should therefore press forward with all possible speed to bring about the full use of all suitable timber-growing land.

This is a matter of particular importance to agriculture. Farmers are our leading class of wood consumers. Because of the present high cost of lumber the construction, repair, and replacement of farm buildings is seriously in arrears, handicapping production and lowering standards of living. In addition to their consumption of lumber, farmers require very large quantities of wood for fencing, fuel, and the like. Furthermore, the migration of forest industries from many former locations, leading to decreased assessable property values, decadence of rural economics and social life, and reduced opportunities for profitable employment, are consequences of forest destruction that weigh heavily on many farmers.

It is not merely farmers, however, who are adversely affected by accumulating idle lands and rising prices of forest products. Outside of portions of the South and West, the whole country is suffering from the effects of timber depletion. Unfortunately, the average



NATURAL REGROWTH IN A DOUGLAS FIR FOREST.

FIG. 35.—If further fires are kept out many burned-over forests will restock themselves with valuable trees and thus avoid the costly process of artificial reforestation.

citizen does not see clearly these effects, because he pays for most of his share of the country's consumption of wood indirectly; it is hidden in the price of nearly everything that he eats, wears, and buys. Except when he undertakes to build a home, he does not realize how much he is paying because of national improvidence in the use of our forests. No simple remedy that will cure the idleness of land and shortage of timber can be prescribed. The problem must be attacked concertedly from all sides.

Extension of Public Ownership of Forests Essential.

One line of attack will certainly have to be an increase of publicly owned forests. That it is entirely practicable for the public to acquire woodland on terms that make its management profitable has

been fully proved by the Federal Government, which has purchased more than 2,000,000 acres. The average price of these lands has been $5.29 per acre. Their market value is to-day materially greater than their cost; they are the source of a considerable revenue from the sale of timber products, and they are growing new forests at a satisfactory rate. Similar business considerations testify to the soundness of the policy of forest purchases undertaken by a number of States.

The amount of denuded forest land in the Eastern States is enormous. While much of it can and should be brought back to productiveness on the initiative of its present owners, there are millions of acres which, either because of the relatively slow rate at which trees will grow, the cost of reclamation, or inaccessiblity to markets, will not for a long time, if ever, be reforested through private enterprises.

The public can promote timber production where private owners can not. One reason for this is that a reasonable return on public capital invested in such an enterprise falls below what private capital would expect. Another reason is that the returns in economic prosperity and varied forms of public service can be made so great that the success of the enterprise does not stand or fall solely on its treasury receipts. Any comprehensive plan for dealing with our timber situation must include large acquisitions by the public of forest lands which in no other way can be made productive within a reasonable time.

The National Forest Reservation Commission should be empowered through appropriate legislation to extend Federal acquisition of forest land. If it seems necessary to rest this policy wholly upon the constitutional ground of protecting the flow of navigable streams, the Congress should prescribe a broad limitation to that effect, but should not handicap the judicious selection of areas by a specific form of determination in each instance. Since local as well as national welfare is at stake, every reasonable encouragement should be given to the States to cooperate with the Federal Government in buying idle forest land which can be restored to productive use only through public ownership. The vast denuded areas in the northern Lake States and in parts of the southern pineries offer particularly urgent fields for the application of this policy.

Federally Owned Lands Should Be Included in Forests.

The extension of public forests is not wholly a matter of acquiring lands now privately owned. There are some five and one-half million acres of unreserved public lands in the continental United States chiefly valuable for timber production or watershed protection. There are 600,000 acres of similar land within military reservations adopted to administration for forest production without conflict with its present use by the Army. There are extensive forest holdings in State ownership still in process of destructive lumbering or distribution into private lands. The reversion of delinquent tax lands, stripped of their timber, is on the increase. A national policy of forestry calls for measures that will place all of these public lands under permanent Federal or State management designed to conserve their capacity for timber production.

Occasional additions to the national forests embracing public timberlands hitherto unreserved are made by specific acts of Congress. This piecemeal attack upon a problem of such general national im-

portance is tardy and inadequate. Other special measures have been before Congress from time to time with reference to the forested lands in military reservations, but thus far have failed of enactment.

Responsibility rests upon the National Government to do its full part in meeting our shortage of timber growth, particularly by placing lands which the Government already owns under the right form of administration. This should be done in a complete and comprehensive way. The President should be authorized by law to place within the national forests any unreserved public lands chiefly valuable for the production of timber or the protection of watersheds; and he should be further authorized by law to place within national forests any portions of military reservations chiefly valuable for the production of timber, subject to the unhampered use of such areas for military purposes as may be needed.

In order to provide reasonably for the extension of the national forests by purchase on areas where the public interests will be best served by this form of ownership, including denuded lands whose restoration to timber growth will otherwise be exceedingly remote if not impossible, not less than $2,000,000 should be provided annually for forest purchases, and the Congress should authorize the National Forest Reservation Commision to make such purchases at any points within the watersheds of navigable streams where in its judgment the public interest in the protection of stream flow or the production of timber will be promoted thereby.

The Part of Private Ownership.

By itself, however, public ownership of timberlands can not suffice to meet the national needs for wood. Nor is it necessary. Private and public forestry go hand in hand in every European country where stable timber production has come about. Both are necessary in the United States, and both are feasible. The pressure of high timber values has already brought about a substantial de-

LOGGED-OFF AND BURNED-OVER LAND IN NORTH CAROLINA.

FIG. 86.—"The country is rapidly draining its diminished supply of timber and adding to the area of idle, cut-over lands which have no possible agricultural utility."

gree of private reforestation in parts of the Northeast. The commercial use of land for growing wood is slowly but surely spreading through the Atlantic States, in the more favorable portions of the South, and even on the Pacific coast. The outstanding fact in

RECREATIONAL USE OF NATIONAL FORESTS.

FIG. 37.—More than 6,000,000 persons seeking rest and recreation visited the national forests during 1923. The Forest Service welcomes these visitors and imposes but one obligation on them, namely, that they exercise care in the extinction of their camp fires.

our national progress in forestry during the past 10 years is the extent to which timber growing as a private commercial enterprise has come about and the much greater extent to which it will be carried if reasonable forms of public assistance are rendered.

Stopping Forest Fires the First Thing.

The most urgent step for the encouragement of private forestry is organized protection against forest fires. Men do not care to buy timber which may be burned the next year. The risk to young growth from forest fires is formidable unless joint action by property owners can be brought about, and, further, unless the community itself takes an aggressive part in reducing it. Educational measures to lessen carelessness with fire and police measures to reduce the negligent or intentional setting of fires are perhaps the most important need of all. In spite of the progress that has been made, we still are a nation of woods burners.

The path to fire prevention on all forest lands has been blazed. Under the wise legislation already on the statute books the Federal Government is cooperating with 26 States, and is about to cooperate with one more, to maintain organized systems of protection. There was spent last year on this work nearly $400,000 from the National Treasury and about $2,000,000 of State and contributed private funds. Twelve States having considerable forest areas, however, do not maintain protective organizations, and of those which do a number can give protection to only a part of their forest area for lack of adequate funds. It is estimated that the annual cost of adequately protecting all our forest lands, exclusive of the national forests, would approximate $9,250,000.

Promotion of Forest Planting Necessary.

With fires kept out, many of our cut-over forests will restock themselves with valuable trees. But where devastation has been severe (usually through repeated fires), tree planting is essential. Various States now maintain tree nurseries and sell trees at or sometimes below the cost of growing and shipping them. Forest planting on a commercial scale is not possible without cheap plants and the present demand for small trees is far in excess of the capacity of the State nurseries to supply them. This form of public assistance to the private timber grower should be largely extended.

The Taxation Problem.

Present methods of taxation discourage the growing of timber. The problem of adjusting taxation to the use of land for producing a crop which matures only after many years, growing more and more valuable from an assessment standpoint yet yielding the owner no current income from which to pay carrying charges, is a very knotty one; for the cost of local government must somehow be met each year.

The capital invested in timber production should bear a tax burden neither less nor greater than that imposed on capital invested in other productive enterprises; but the owner of forest lands can not faily be called upon to pay a yearly tax on his investment plus a steadily enhancing yearly levy—forty or fifty times—on a single crop. A solution would seem to be either in taxing the land only at its full value for timber production, or in taxing the timber crop at the time of harvesting it, or possibly in some combination of these two principles.

The Need for Better Knowledge of Forest Growing and Forest Use.

There are other investigations that must be vigorously prosecuted if we are to make our forests supply the national needs. Like agriculture, forestry must be based on a store of accumulated knowledge if full use of the soil is to be secured. Much remains to be learned about growing timber crops. There is also large room for bettering our practices in the use of forest products. In my previous reports I have mentioned the need for more research, through which alone can be obtained the technical information essential for bringing wood use and wood growth into any sort of reasonable balance. This need grows steadily.

Practical Forestry by Small Owners.

Almost one-third of our forest lands are owned by farmers. If the practice of forestry were as well developed among them as are the cultural practices applied in growing field crops, both their own returns and the quantity and quality of timber grown would be larger. In parts of the Northeast rural prosperity is closely related to the profitable use of the poorer land, which it does not pay to cultivate and which, even when kept in woods, is seldom as productive as it should be. In consequence, the machinery created under the Smith-Lever Act should be utilized to bring about better han-

dling of farm woodlands through the method of demonstration and practical example. There is much that can be done along extension lines to increase timber production at the very point where it would most effectively aid the general agricultural situation by affording a profitable employment of inferior soils.

An Immediate Legislative Program.

It is not possible at the present time to foresee just how far the efforts of the Federal Government to promote the growing of timber should be carried. Far-reaching changes in our national conceptions of land use can not be brought about overnight. Necessarily they come about by a process of evolution. The first great step toward a permanent timber supply was the creation of national forests from the public domain. A second step was taken by the Weeks law in the extension of the national forests in the Eastern States through purchase. A third significant step was initiated by the same measure in providing for limited cooperation between the Federal Government and the States in the protection of privately owned forest lands on the headwaters of navigable streams.

The time is opportune for another forward step in national forestry policy, whose specific aim should be to give the freest possible play to the economic forces already tending to make timber a staple crop on private land, so that the movement toward reforestation as a commercial enterprise may attain all the momentum of which it is capable.

National assistance in private timber growing can be extended most effectively in four ways, which might well form the major planks in a new Federal law. These are:

(1) Provision for nation-wide cooperation with the States and private landowners in the protection of forest lands from fire, under an equitable distribution of the financial burdens entailed. Such cooperation should not be limited to the watersheds of navigable streams, but based squarely on the national benefits of reforestation, including the conservation of water sources. The maximum Federal expenditure authorized for this purpose should be not less than $2,500,000 per annum.

(2) Provision for Federal cooperation with the States in investigating the effects of prevailing methods of taxing forest lands, and in devising forms of taxation which will promote deforestation without inequity to other taxpayers. Tax legislation necessarily rests with the States concerned; but nation-wide study and leadership in this matter will be of the utmost benefit.

(3) Provision for Federal cooperation with the States in growing and distributing forest-planting material at cost or such other reasonable rates as will promote forest planting by private landowners on a large scale. The need for this form of public assistance is now imperative. It is possible thereby to multiply by several fold the present rate at which denuded lands are being replanted.

(4) Provision for Federal cooperation with the States in extension work to teach and demonstrate timber-growing methods, with special reference to timber growing on farms and other small holdings. Here also a tremendous opportunity exists for rapidly increasing the current rate of wood production in the United States.

With these developments in the national forestry policy, and to a large degree underlying and supporting all of them, must go more comprehensive research in timber growing and in economy in the use of timber. The research facilities with these objects in view already existing in the Department of Agriculture have made notable progress, but should be expanded to meet the growing need for sound technical data on which the whole forestry movement depends.

The Need for Extending Regulation of Range Use.

Adjoining many national forest ranges are large areas of the public domain suited only for grazing purposes. Just as the accumulation of cut-over lands has been a force making for overdevelopment of farming on soil of inferior productiveness, so has the public policy with respect to these open-range lands of the West worked in the same direction. Settlement of these lands has been encouraged without consideration of the economic and social waste that results when the settler locates on land from which a decent living can not be made through cultivation because of adverse natural conditions. But a point has now been reached beyond which no substantial further development of agriculture is possible. There are still 175,000,000 acres of unreserved public lands which remain unentered. They are used in the main as grazing commons. The greater part of this land is arid or semiarid in character and supports no tree growth. It is land on which, by and large, 60 years' experience has demonstrated that there is no possibility of agriculture except as limited areas may now and then be embraced within irrigation developments. For the most part, it is land whose natural productivity is low and has been steadily declining by reason of excessive and unregulated grazing. On much of it at the present time the natural forage grown on 20 or 30 acres will no more than furnish yearlong pasturage for a single cow. Much of it is land which the stockman could not afford to own and carry.

This vast area is now no man's land in very truth. The Government owns it, but exercises no control over it. The sheep or cattle owned by near-by ranchmen or by itinerant herders graze it as they can. The first comer gets the best of the forage; later comers take the leavings, if there are any. Under this unregulated and destructive use most of the land has lost a large part of its original forage-producing value.

Public Ranges Should be Used and Improved.

These open public ranges have played a conspicuous part in the picturesque history of the livestock industry of the West. Their deterioration represents, in the aggregate, an enormous loss in the natural resources on which only the industry can be maintained. Furthermore, the free and open status of these lands injects a large element of instability and uncertainty into the livestock business. The production of livestock under western conditions normally requires ranch lands where hay is grown for winter feeding and available areas of low open range for spring, or spring and fall, grazing, as well as other available areas of higher range for summer grazing. In many cases at the present time but two elements in this year-

round program are assured, the privately owned ranch with its winter forage and the summer range in the national forest administered by the Department of Agriculture. During the intervening seasons, which may comprise one-third or more of the year, the stockman must hazard the safety of his herds and the success of his business upon the availability of open ranges on the public domain over which he has no control and for which he must compete in a general scuffle, with no administration by the Government.

In some cases national forest ranges have been of necessity overgrazed, and particularly grazed too early in the year, on account of the pressure from local ranchmen whose old spring range on open public lands is largely gone. In other words, unregulated spring range has become the neck of the bottle. Winter feed and summer pasturage are available for more stock than can be subsisted during the interval unless the spring range on the open domain can be protected from overgrazing and utilized in a coordinated way with the other and stable factors in the round of the year.

To restore and perpetuate one of the great natural resources of the West and at the same time to reduce the losses and uncertainties in western livestock production, the remaining open public ranges should be placed under a form of supervision analogous to that of the Department of Agriculture over the range lands within the national forests. The main objects of this administration should be (1) to adjust the number of livestock and the seasons of use so that the forage produced on these areas may increase in volume and quality rather than deteriorate and (2) to provide for an orderly allotment of grazing privileges to the livestock producers most entitled to them by reason of the location of their ranches and their necessary yearly rotation on spring, summer, and fall ranges. Experience offers no prospect that the orderly and intelligent use of these range lands and the conservation of their forage-producing capacity can be accomplished under any scheme of distribution into private ownership. The task is one that must be assumed by the National Government.

Placing the open public ranges under regulation will in no sense be inimical to the interests of the recent homesteader or the future settler wherever settlement is possible. On the contrary, the settlers will gain more from range regulation than any other class. A fixed point in grazing administration on the national forests is to recognize the settler whose ranch development requires outside pasturage as having a prior claim upon the use of the grazing lands adjacent to his homestead. The milk and work animals of all settlers in or near the national forests are allowed free and undisturbed grazing therein. As the settler accumulates other livestock he is given the range allotments most naturally and economically utilized in connection with his home, and is protected in the use of such allotments as against stockmen living farther away and from the nomadic herds of distant owners which move about the country picking up forage wherever it may be found.

Settlers in or near the national forests who have sought to establish themselves in the livestock business have been in a far more advantageous position to benefit from public range than newcomers in other regions where the unreserved public grazing lands were at all crowded. In fact, many settlers have been unable to establish

themselves on public lands because they could not obtain the range needed to supplement their homesteads and have been driven out of the country because the public range lands surrounding them were completely eaten out by the large herds of the established livestock producers in that vicinity.

The same principles should govern grazing administration on the unreserved domain. Any land that has or may develop agricultural value should be available for settlement exactly as similar land has been made available for settlement within the national forests. And settlers whose home building depends upon livestock should be given priority in the allotment of range accessible for their use. While the bulk of the remaining public lands are not capable of settlement and must, as far as can now be foreseen, remain primarily range lands for all time to come, a system of public range regulation would promote and foster settlement wherever it may become feasible to a far greater extent than under the present unregulated and destructive use of these areas.

No group of men understands this situation or realizes the necessity for action more clearly than the western stock growers themselves. They know that their business can not be satisfactorily organized or accorded an adequate basis for credit until stable tenure in the use of the open public ranges can be secured and the deterioration of these pastures brought to an end. There is a general demand from the livestock interests of the West that some form of grazing administration be extended over the unreserved public lands. In many cases local livestock interests have petitioned Congress to add considerable areas to the national forests, not because they had any value for timber production but because these people wanted the benefits and protection of the national-forest system of grazing administration. One or two additions of this character have been made by acts of Congress in response to local public sentiment. Many areas of open public range lands which form logical portions of grazing units now partly within the national forests could, in fact, be most economically and effectively administered by adding them to the forests. The Department of Agriculture regards this as a sound and commonsense extension of the national forest system in meeting obvious present-day needs of the West; but to the extent that such a policy is adopted it should be with a clear understanding that the bulk of the lands involved are treeless and have no prospective value for growing trees. If they are added to the national forests it will not be ordinarily for the production of timber or the protection of water sources, but primarily for the protection and regulated use of range.

There are many other areas of open public land which do not adjoin national forests, and which, if placed under public administration, should constitute separate and distinct units, which might be called national ranges. The experience and judgment of the local livestock growers themselves will ordinarily afford the best index to the necessity either for the addition of grazing lands to the national forests or for the creation of separate national ranges. The problem involves enormous areas and a considerable variety in the local conditions and circumstances to be considered. It would not be wise to attempt its solution by blanket legislation applying simultaneously to all lands of the character described. It would be the wiser course

to define a national policy, leaving its application to develop area by area and region by region and recognizing the principle of local option on the part of the livestock growers directly affected.

Range Management an Agricultural Problem.

The administration of the western ranges for the production of livestock is essentially an agricultural activity. Its effective development requires much in the way of research to determine how depleted ranges can be restored, how the more nutritious forage plants can be brought back, to what extent artificial seeding can be profitably employed, what is the carrying capacity of many different types of pasturage and browse, and how intensive use of this forage can be so adjusted, by seasons and otherwise, as to maintain and build up the productivity of the resource. The results of such research must be applied in the actual administration of grazing as rapidly as may be possible without serious injury to the economic interests dependent upon the range. These are all problems of scientific agriculture; and they are problems upon which the various bureaus of this department have done a vast amount of work in connection with the administration of the national forests and other activities in the Western States.

During the past 18 years, furthermore, the Department of Agriculture has developed public-range administration on 100,000,000 acres of forage-bearing land in the national forests. It has perfected an organization for this purpose, in both its technical and administrative phases, which now has many years of practical experience behind it and is recognized for leadership in open-range grazing. The work to be done on the unreserved public-grazing lands in both its scientific and administrative aspects is simply an extension of the grazing work on the national forests. The grazing on all lands in public ownership must be coordinated, since in a large proportion of cases the same livestock uses both national forest and outside lands in the course of the season's pasturage. It would obviously be in the interest of efficiency and public economy to have one organization handle both parts of the common task. The problem as a whole is part of the general agricultural development of the country.

The specific legislation which is recommended is a law which would—

(1) Authorize the President, by Executive order, upon petition from a majority of the stockmen using the area concerned and after full investigation, to add to the national forests contiguous unreserved public lands chiefly valuable for the grazing of livestock for the purpose of conserving and regulating the use of their forage.

(2) Authorize the President, by Executive order, upon a petition from a majority of the stockmen using the area concerned and after full investigation, to create and designate national ranges comprising unreserved public lands valuable chiefly for the grazing of livestock, such national ranges to be administered by the Secretary of Agriculture in so far as their use and occupancy for the grazing of livestock or purposes directly connected with the grazing of livestock may be concerned.

For many years, while the Government has gone forward constructively in the conservation and sane use of the greater part of

the timber on its public lands, and of the forage resources embraced in the national forests as an incident to the protection of timber and stream flow, we have disregarded the perpetuation and conservative use of the vast forage resource on the public domain. No small part of the insecurity and hazardous nature of the livestock industry in the West at the present time is due to inaction on this vital question. There should be no further delay in meeting this situation. The destruction of the grazing value of the public domain can not be defended.

The Forest Problem Only One Part of a General National Problem of Land Utilization.

In reality, the problems of forestry and the better regulation of the grazing resources on the public domain are merely phases—though very important phases—of the broad problem of land utilization. As the timber is cut millions of acres are thrown out of use. Some of this land is now suitable for use as farming land, some of it will be needed for that purpose in the course of time, but most of it is permanently unsuited to use for farming purposes. Of the arid or semiarid open public grazing lands, relatively little is physically capable of growing crops except where irrigation may be possible, no matter how pressing the national need for crop land may become; and under present conditions it is steadily declining in capacity for use for the only form of use to which it can be put, while being held open for entry under the homestead laws. It is clear that a proper distribution of our reserve areas between the three uses—forests, grazing, and crops—implies some kind of policy of giving direction to the utilization of our land resources.

TREND IN PER CAPITA ACREAGE OF CROPS, PASTURE AND FOREST, AND AMOUNT OF LIVESTOCK, UNITED STATES, 1880–1920.

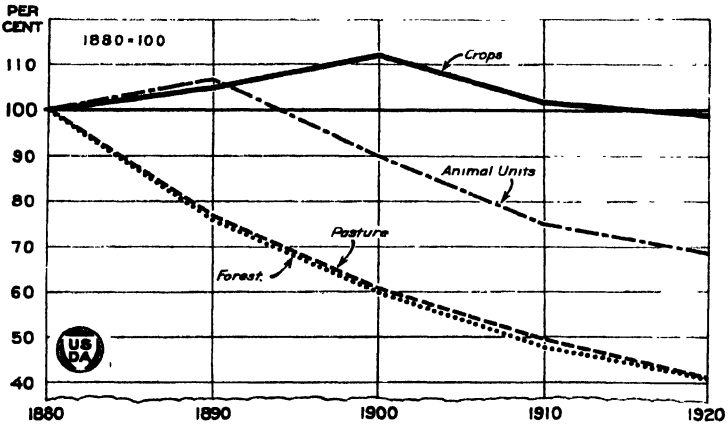


FIG. 38.—The acres of crops per capita of the United States increased 12 per cent between 1880 and 1900, and then decreased to an amount in 1920 1 per cent below that in 1880. The per capita acreages of both pasture and forest land, on the other hand, have declined since 1880, and are now only 40 per cent as great as 40 years ago. The per capita amount of livestock increased till 1890, and has since decreased at almost as rapid a rate as pasture.

Land Utilization Policy.

While many of the agricultural difficulties of the past three years have been due in part to surplus production resulting from overstimulation during the war, it is evident that before very many years our population will have grown to a point which will enable it to consume not only all we produce at the present time but considerably more. Where this increased production is to come from and how our

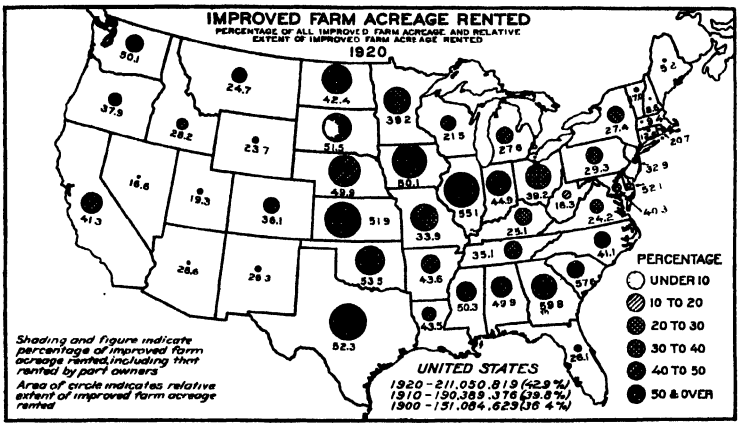


FIG. 39.- About five-sixths of the improved farm acreage under lease is rented by tenants, the remainder being rented by part owners. In some Western States part owners rent nearly as much land as do tenants. There are 11 States in which over half of the improved land is rented. The percentage of improved farm land is greatest in the Cotton, Wheat, and Corn Belt States. Nearly half of the improved acreage under lease in the United States is in 17 Western States. Over half of this acreage is in States between the Rocky Mountains and the Mississippi River.

national land resources may be best used is therefore a matter of major importance. Some two years since I appointed a departmental committee, consisting of representatives of various bureaus, to consider present and future needs for crop land, forests, and pastures; the extent and location of areas that can be made available for these various uses; and the governmental policies that should be adopted to adjust use to needs.

The more immediate problems of the adjustment of type of use to climate, soil, and economic conditions in the semiarid regions of the West have received the major part of the attention of the section working on land utilization problems. Particular attention has been given to the Great Plains as a whole and the spring wheat section as a part of the larger field. Frequently recurring seed loans are not a solution of the problem; this lies rather in a change in the type of agriculture and farm organization.

War prices, propaganda urging increased food production, and local desire for the development of unused resources have brought about the reclamation by irrigation and drainage of large areas of land on some of which it is being found difficult to repay the cost of reclamation. Effort has been made during the past year to coordinate the policy of the Reclamation Service with the studies of this department in directing land utilization and settlement. The Secre-

tary of the Interior has recognized the desirability of obtaining the judgment of the Department of Agriculture concerning the agronomic and economic feasibility of proposed reclamation projects and has referred such projects to this department for consideration.

Tenancy on farm lands has been increasing. Studies of the extent of tenancy and of the various forms of contract under which tenants operate have been made with a view to promoting farm ownership and the use of equitable forms of rental agreements.

Farm credits are based primarily on land values. The proper appraisal of farm lands is of great importance in order that the farmer may obtain the credit to which he is entitled and at the same time that credit agencies may have adequate security. During the year much attention has been given to a determination of the influence of the various factors affecting land values as a basis for developing scientific methods of appraisal.

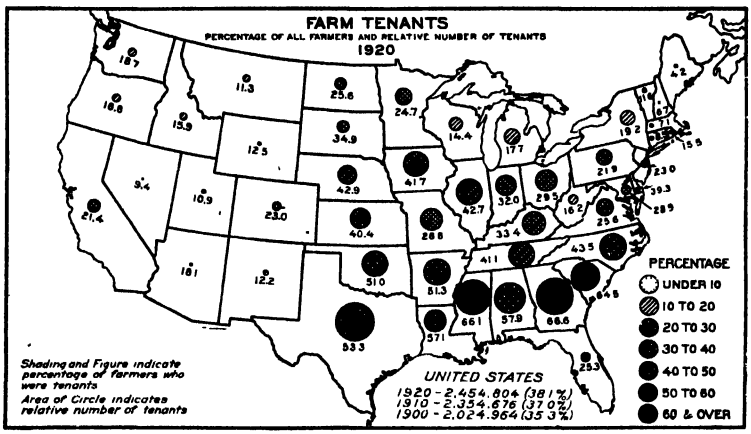


FIG. 40.—From a half to two-thirds of the farms in the eight Southern States from Oklahoma and Texas to South Carolina are operated by tenants. These States contain more tenants than the other States. About a third of the tenants in these States are croppers, whose work stock is furnished by their landlords. When croppers, who usually have no legal hold upon the land, are excluded from the tenant classification, the relative number of tenants in Southern States is not strikingly larger than in the Corn Belt.

It is hoped that the report of this departmental land committee will be ready for inclusion in the Yearbook of the department for 1923, and it is expected that this Yearbook will be available for distribution early in the spring of 1924.

Housing Situation.

In previous reports I have called attention to the unsatisfactory housing of the department and have recommended a building program to meet this situation. It has not yet been possible, however, to secure an appropriation to begin work on this program. Concentration into fewer and larger buildings of a more suitable character than the existing widely scattered structures, providing proper housing for present activities, is the most important need of the department at the present time, and I again urgently recommend that provision be made to this end.

Last year I asked the Bureau of Efficiency to study the housing problem in the department, in the hope that something could be done in the reassignment of available space. This bureau made an exhaustive investigation of the situation in cooperation with department representatives, with the result that it was found inadvisable to reassign office space, as the removal and installation of a large amount of laboratory and other heavy equipment would be involved. The recommendation of the committee regarding one building where available space was found has, however, been favorably acted upon.

The department continues to occupy more than 40 buildings in various parts of Washington. Efficient and economical administration of its affairs remains impossible while this condition exists. During the past fiscal year the Government spent $177,726.92 for rental of buildings occupied by this department in the District of Columbia.

RENTAL FOR BUILDINGS OCCUPIED BY THE DEPARTMENT OF AGRICULTURE IN WASHINGTON, D. C.

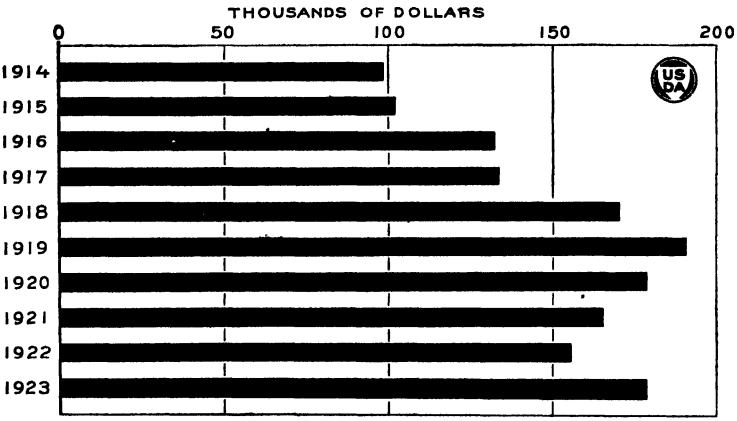


FIG. 41.—The total rental for buildings to house the staff of the Department of Agriculture increased from about $100,000 in 1914 to over $190,000 in 1919. Since that time the rentals have decreased despite the increasing activities of the department. Since 1920 the department has been assigned temporary nonfireproof war buildings, upon which there is no rental and which are wholly inadequate.

A number of laboratories have had to be housed in rented or other temporary quarters of nonfireproof construction not intended or designed for laboratory installations or for permanent occupancy. The installation of essential apparatus and equipment for efficient work usually requires permanent foundations, costly plumbing and electric wiring, or special provision for the maintenance of constant temperatures. The present temporary character of the department's housing arrangements in some cases precludes the possibility of providing much-needed apparatus. With the development of the department's work its housing situation is becoming more and more acute, and it will be impossible to hold outstanding research workers or do efficient work in many lines until such intolerable conditions have been recognized and steps taken to remedy them. Another illustration in the need for additional space is found in the effort

new being made to centralize control of purchases. Progress in this work is blocked by the lack of a warehouse to serve as a central depot of supplies.

General Administration.

Continued attention has been given by the department to the adoption of ways and means of insuring the most effective and economical methods in the expenditure of public funds. Efforts are being made continually to improve the business administration of the department and to inaugurate economies wherever consistent with effective results. In my last report specific instances of savings were cited. The same effort has been in evidence during the past year and many additional steps have been taken to better the service and reduce cost. One of the branches of the office of the Secretary has been organized in such a way as to advise and assist the administrative and accounting offices of the various bureaus in the survey of existing methods and in effecting changes in business organization where needed. Further special attention has been given to the development and supervision of the purchase and sales work under an expert in this line who has been employed for this specific purpose. Reserves have again been set up wherever practicable against the various appropriations, and these and other unused balances of appropriations were turned back into the Treasury at the end of the fiscal year.

Salary Classification.

The number of employees in the department June 30, 1923, was 20,261. More than 16,000 of these were engaged in work outside of Washington.

Careful attention has been given to the activities necessitated by the provisions of the classification act of 1923. A personnel classification officer was designated to coordinate and supervise the large volume of work incident to the classification of the department personnel.

A consideration of what has been accomplished thus far indicates that the prospects which classification offers for the adjustment of present inequalities in pay and the enlargement of opportunity for advancement are acting as a strong incentive for the continuance of effort and the rendering of efficient service. The critical analysis and evaluation of the duties and responsibilities of department employees which is now being made to insure their just and equitable allocation under the classification plan should lead to more effective administrative organization and stimulate department workers to maintain a high standard of efficiency.

Respectfully,

HENRY C. WALLACE,
Secretary of Agriculture.

Financial Statement.

The net cost to the Federal Government of the regular activities of the department during the fiscal year 1923 was approximately $34,500,000, as indicated by the following table:

Federal Funds for Regular Work of the Department.

	Appropriations available, fiscal year 1923.	Expenditures, fiscal year 1923.	Outstanding obligations.	Unobligated balances.
Agricultural appropriation act, 1923 (exclusive of appropriations made direct to States for research work under the Hatch and Adams Acts and for extension work under the Smith-Lever Act, and appropriation for the acquisition of lands by the National Forest Reservation Commission)	$33,584,173.00	$28,540,386.90	$4,226,005.92	$817,780.18
Deficiency appropriation acts (July 1, 1922, Jan. 22, 1923, and Mar. 4, 1923)	774,980.00	651,322.01	48,915.84	74,742.15
Supplemental appropriation for increase of compensation (act of June 29, 1922)	3,232,863.00	2,935,862.96	218,943.62	78,056.42
Permanent annual appropriation for meat inspection (act of June 30, 1906)	3,000,000.00	3,000,000.00		
Revolving fund for classification of cotton	134,538.29	80,287.63		54,250.66
Allotment for fixed nitrogen research ($500,000 transferred from appropriation placed at disposal of the President by the national defense act of June 3, 1916, and $275,903.46 unexpended balance of allotment previously transferred)	775,903.46	212,976.17	24,961.13	537,966.16
Eradication of foot-and-mouth and other contagious diseases of animals (reappropriation of unexpended balance from 1922)	353,924.93	53,392.49		300,532.44
Control of white-pine blister rust (available balance of continuing appropriation made in 1922)	124,663.12	119,812.72	866.61	3,983.79
Control of insect infestations on national forests (available balance of continuing appropriation made in 1922)	109,184.73	39,373.78	25,953.18	43,857.77
Other continuing appropriations for regular work	90,155.58	8,217.74	7,004.34	74,933.50
Total	42,180,386.11	35,641,632.40	4,552,650.64	1,986,103.07

Expenditures, as shown above	$35,641,632.40	
Outstanding obligations, as shown above	4,552,650.64	
Total expenditure, fiscal year 1923, when all obligations are paid		$40,194,283.04
Less:		
Receipts, 1923, deposited in United States Treasury to credit of miscellaneous receipts fund (see below)	$5,576,904.55	
Reimbursement by dealers for cost of classifying cotton	66,711.21	
		5,643,615.76
Net cost of regular work		34,550,667.28

Of the total expenditure of $40,200,000 for the regular work of the department, approximately $9,000,000, or 22.5 per cent, was used for research; $2,400,000, or 6 per cent, for extension; $20,500,000, or 51 per cent, for service and regulatory activities; and

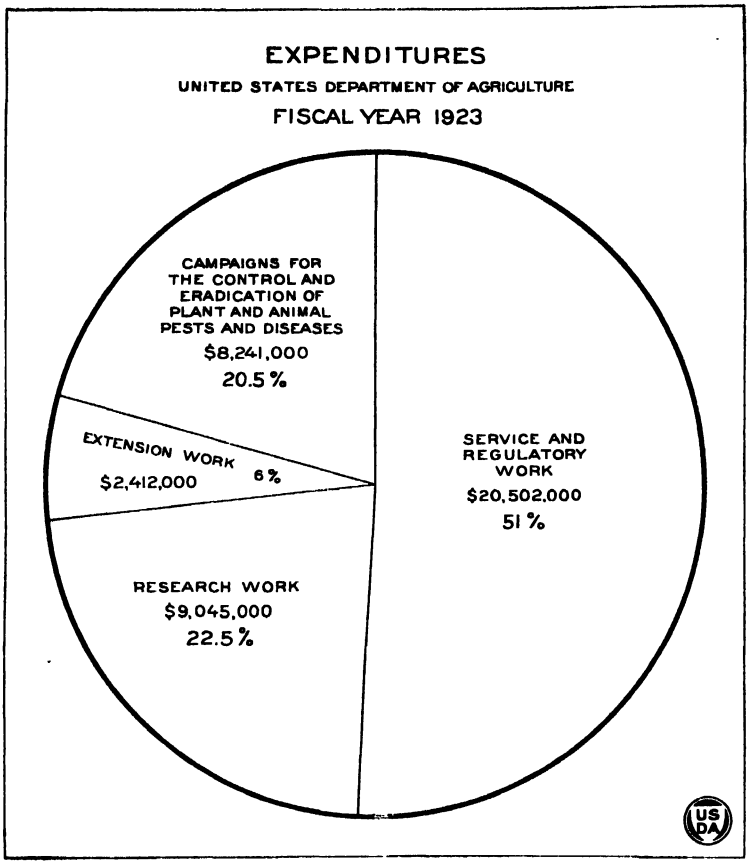


FIG. 42.—Over one-half of the expenditures of the Department of Agriculture involves public service and regulatory work, and less than one-fourth is devoted to research work for the development of agriculture.

$8,300,000, or 20.5 per cent, for campaigns for the control or eradication of various animal and plant diseases and pests.

Direct Income to Government in Connection with Work of Department of Agriculture, Fiscal Year 1923.

Incident to the department's work during the fiscal year 1923, direct receipts aggregating $9,986,908 were covered into the Treasury, and fines were imposed and judgments recovered by the courts amounting to $247,895.57 in connection with the enforcement by the department of the regulatory acts which devolve upon it for administration and execution, as follows:

Receipts:		
Deposited to credit of miscellaneous receipts fund—		
From business on the national forests	$4,807,249.07	
From other sources	769,655.48	
		$5,576,904.55
Deposited to credit of miscellaneous receipts fund but subsequently appropriated as special funds for use of Forest Service—		
Ten per cent of net receipts from business on the national forests, for forest road and trail construction in 1924	528,569.06	
Contributions from private sources, used mainly for the construction of forest roads and trails	1,517,467.46	
		2,046,036.52
Deposited to credit of appropriations for regular work of department		402,588.58
Deposited to credit of appropriations administered by but not used in prosecuting regular work of department—		
Reimbursement for cost of distributing surplus war materials to States for use in road construction work	$573,183.95	
Repayments by farmers of seed-grain loans	1,388,194.40	
		1,961,378.35
Total receipts		9,986,908.00
Fines imposed and judgments recovered by the courts in connection with violations of statutes intrusted to Department of Agriculture for enforcement		247,895.57
Total direct income to Government resulting from activities of Department of Agriculture		10,234,803.57

Federal Funds Administered by Department but not Used for its Regular Work.

In addition to the expenditures for conducting the investigative, regulatory, and other regular activities of the department, $88,514,578.60 was expended during the fiscal year 1923 from appropriations administered by the department but not used for the prosecution of its regular work as follows:

	Appropriation available, fiscal year 1923.	Expenditure, fiscal year 1923.	Unexpended balance, June 30, 1923.
Extension work in agriculture and home economics:			
Provided by Smith-Lever Act of May 8, 1914	$4,580,000.00		
Supplementary fund provided by agricultural appropriation act for 1923	1,300,000.00		
Balances from prior years	154,472.77		
	6,034,472.77	[1] $5,810,449.45	$224,023.32
Research work of State agricultural experiment stations (provided by agricultural appropriation act for 1923)	1,440,000.00		
Balances from prior years	210.10		
	1,440,210.10	[1] 1,439,999.59	210.51

[1] Paid direct to States by Treasury Department.

	Appropriation available, fiscal year 1923.	Expenditure, fiscal year 1923.	Unexpended balance, June 30, 1923.
Federal-aid road construction (provided by acts of July 11, 1916; Feb. 28, 1919; Nov. 9, 1921; and Jan. 22, 1923):			
Rural post roads—			
Appropriated for fiscal year 1923	$25,000,000.00		
Balances from prior years	178,703,521.43		
	203,703,521.43	[1] $71,601,752.72	$132,101,768.71
Roads and trails within or adjacent to national forests—			
Appropriated for fiscal year 1923	11,000,000.00		
Ten per cent of national forest receipts for 1922, available for road and trail building in 1923	338,576.96		
Balances from prior years	6,408,586.52		
	17,747,163.48	6,467,639.69	11,279,523.79
Payments to States from national forest receipts for benefit of county schools and roads	882,204.01	[2] 882,204.01	
Refunds to users of national forest resources of moneys deposited by them in excess of amounts required to secure purchase price of timber, use of lands, etc.	101,824.19	101,824.19	
Acquisition of lands by National Forest Reservation Commission for protection of forested watersheds of navigable streams:			
Provided by agricultural appropriation act for 1923	450,000.00		
Balances from prior years	1,458,455.35		
	1,908,455.35	768,391.84	$1,140,063.51
Expenses of National Forest Reservation Commission (provided by act of Mar. 1, 1911):			
Appropriation for fiscal year 1923	25,000.00		
Balances from prior years	48,242.21		
	73,242.21	537.06	72,705.15
Cooperative work, Forest Service, consisting principally of forest road and trail construction (paid from contributions from private sources):			
Amount contributed during 1923	1,517,467.46		
Balances from prior years	381,495.75		
	1,898,963.21	1,299,782.88	599,180.33

[1] Including expenditures of $152,511.28 from fund of $175,000 set aside for road material investigations.
[2] Paid direct to States by Treasury Department.

	Appropriation available, fiscal year 1923.	Expenditure, fiscal year 1923.	Unexpended balance, June 30, 1922.
Farmers' seed-grain loans:			
Appropriations provided by deficiency acts of July 1, 1922, and Mar. 4, 1923, for collection of loans	$75,000.00		
Collections during 1923 of loans made in 1921 and 1922	1,388,194.40		
Previously collected	693,173.64		
	2,156,368.04	$69,226.66	$2,087,141.38
Exchange of lands, State of Washington	3.31	3.31	
Work done by Department of Agriculture for other departments at their request, under authority of section 7, fortifications act of May 21, 1920:			
Allotments from other departments, fiscal year 1923	12,623.00		
Balance of allotments made in prior years	62,453.35		
	75,076.35	72,687.59	$2,388.76
Procuring and disposing of nitrate of soda to farmers (balance of war emergency revolving fund provided by acts of Aug. 10, 1917, Mar. 28, 1918, and Oct. 1, 1918)	512,328.26	79.61	[1] 512,248.65
Total Federal appropriations administered by department but not used for its regular work	236,533,832.71	88,514,578.60	148,019,254.11

Summary of all appropriations available to the Department of Agriculture during fiscal year 1923.

Title of appropriation	Amount appropriated.	Expenditures to June 30, 1923.	Unexpended balance, June 30, 1923.
Agricultural act for fiscal year 1923	$36,774,173.00	$31,388,336.97	$5,385,836.03
Supplementary appropriations contained in deficiency acts of July 1, 1922, Jan. 22, 1923, and Mar. 4, 1923:			
Suppressing spread of pink bollworm of cotton	75,000.00	75,000.00	.....
Fighting forest fires	375,000.00	375,000.00	.....
Protection of lands in Oregon and California Railroad forfeiture suits	16,480.00	13,987.61	2,492.39
Motor boat for Alaskan forests	8,500.00	.....	8,500.00
Citrus canker eradication	100,000.00	100,000.00	.....
White-pine blister rust control	30,000.00	30,000.00	.....
Nut culture	5,000.00	5,000.00	.....
Investigating sources of crude rubber	100,000.00	4,395.57	95,604.43
Boll weevil poisoning by airplane	40,000.00	29,207.54	10,792.46
Preventing spread of Japanese beetle	25,000.00	18,731.29	6,268.71
Supplemental appropriation for increase of compensation (act of June 29, 1922)	3,232,863.00	2,935,862.96	297,000.04

[1] Turned into surplus fund June 30, 1923.

***Summary of all appropriations available to the Department of Agriculture during fiscal year 1923*—Continued.**

Title of appropriation.	Amount appropriated.	Expenditures to June 30, 1923.	Unexpended balance, June 30, 1923.
Permanent specific appropriations:			
Meat inspection (act of June 30, 1906)	$3,000,000.00	$3,000,000.00	
Cooperative agricultural extension work (act of May 8, 1914)	4,580,000.00	4,510,449.45	$69,550.55
Cooperative construction of roads and trails, national forests (act of July 11, 1916)	1,000,000.00		1,000,000.00
National Forest Reservation Commission (act of Mar. 1, 1911)	25,000.00	496.69	24,503.31
Continuing appropriations:			
Cooperative construction of rural post roads (deficiency act of Jan. 22, 1923)	25,000,000.00	152,511.28	24,847,488.72
Forest highways (act of Nov. 9, 1921)	7,000,000.00	342,504.53	6,657,495.47
Forest road development (act of Nov. 9, 1921)	3,000,000.00	859,919.22	2,140,080.78
Indefinite appropriation. Refunds to depositors, national forests fund	101,824.19	101,824.19	
Special funds:			
Roads and trails for States, national forests fund	338,576.96		338,576.96
Payments to States and Territories, national forests fund	846,442.41	846,442.41	
Payments to school funds, Arizona and New Mexico, national forests fund	35,761.60	35,761.60	
Cooperative work, Forest Service	1,517,467.46	918,287.13	599,180.33
Revolving fund for classification of cotton	66,711.21	12,460.55	54,250.66
Fund from seed-grain loans collected during 1923	1,388,194.40		1,388,194.40
Appropriation for collection of seed-grain loans	75,000.00	69,226.66	5,773.34
Allotment for nitrate plants	500,000.00		500,000.00
Allotments from other departments:			
Insect control, Kaibab National Forest	1,000.00	1,000.00	
Air Service, Army, 1923	10,000.00	9,797.13	202.87
Breeding experimental animals, Army, 1923	1,000.00	753.57	246.43
Investigations for Federal Power Commission, 1923	450.00	230 01	219.99
Manufacture of arms	173.00	140.63	32.37
Total, current appropriations and funds (exclusive of balances from prior years)	89,269,617.23	45,837,326.99	43,432,290.24
Unexpended balances of appropriations and funds for prior fiscal years remaining available for expenditure or other disposition during fiscal year 1923:			
Appropriations in agricultural acts for fiscal years 1921 and 1922	$5,683,344.45	$2,747,852.18	[1] $2,935,492.27
Reappropriation of unexpended balance for eradication of foot-and-mouth disease, etc	353,924.93	53,392.49	300,532.44
Supplemental appropriations for fiscal years 1921 and 1922—			
White-pine blister rust control (1922-23)	124,663.12	119,812.72	4,850.40
Insect infestations, national forests (1922-23)	109,184 73	39,373.78	69,810.95
Enforcement of packers and stockyards act	47,410.93	20,497.27	26,913.66
Enforcement of future trading act	33,616.18	6,304.77	27,311.41
Operation of Center Market	44,552 10	22,219.44	22,332.66
Salaries and expenses, wool division, War Industries Board	2,500.00		2,500.00
Protection of lands, Oregon and California Railroad forfeiture suits	112.40	112.40	

[1] Of these balances, $1,702,859.80 was turned into the surplus fund of the Treasury at the end of the year.

***Summary of all appropriations available to the Department of Agriculture during fiscal year 1923*—Continued.**

Title of appropriation.	Amount appropriated.	Expenditures to June 30, 1923.	Unexpended balance, June 30, 1923.
Unexpended balances of appropriations and funds for prior fiscal years remaining available for expenditure or other disposition during fiscal year 1923—Contd.			
Supplemental appropriations for fiscal years 1921 and 1922—Continued.			
Consolidating addressing and duplicating work	$33.94		$33.94
Blowndown of timber, Olympic National Forest (1921–22)	8,421.63		8,421.63
Supplemental appropriations for increase of compensation for fiscal years 1921 and 1922	138,189.81	$125,296.55	[1] 12,893.26
Permanent specific appropriations—			
Meat inspection	532,400.04	306,069.76	[1] 226,330.28
Cooperative agricultural extension work	154,472.77		[1] 154,472.77
Cooperative construction of roads and trails, national forests	1,136,729.49	651,909.18	484,820.31
National Forest Reservation Commission	48,242.21	40.37	[1] 48,201.84
Continuing appropriations—			
Cooperative construction of rural post roads	178,703,521.43	71,449,241.44	107,254,279.99
Forest highways	2,230,127.09	2,230,127.09	
Forest road development	1,975,242.50	1,975,242.50	
Federal forest road construction	765,939.36	290,193.18	475,746.18
Acquisition of lands for protection of forested watersheds of navigable streams	689,221.88	413,223.70	275,998.18
Enforcement of grain standards act	2,922.10	1,858.51	1,063.59
Administration of warehouse act	6,092.98	5,567.04	525.94
Determining cotton standards and spot markets	722.26	487.45	234.81
Sullys Hill National Park game preserve	4,744.33	250.14	4,494.19
Wind Cave national game preserve	1,296.12	54.60	1,241.52
Laboratory building, Arlington Farm	74,377.79		74,377.79
Exchange of lands, State of Washington	3.31	3.31	
Special funds—			
Roads and trails for States, national forests fund	300,548.08	117,743.99	182,804.09
Cooperative work, Forest Service	381,495.75	381,495.75	
Revolving fund for classification of cotton	67,827.08	67,827.08	
Fund from seed-grain loans collected during 1922	693,173.64		693,173.64
Procuring and disposing of nitrate of soda	512,328.26	79.61	[1] 512,248.65
Allotment for nitrate plants	$275,903.46	$212,976.17	$62,927.29
Allotments from other departments—			
Air Service, Army, 1922	260.73	260.69	.04
Breeding experimental animals, Army, 1922	571.60	78.00	[1] 493.60
Research by Forest Service in aircraft production, Army	5.39		[1] 5.39
Tests of forest products for Army	36.51	35.26	[1] 1.25
Investigations for Federal Power Commission	5,800.00	5,614.37	185.63
Aviation, Navy, 1922	50,000.00	49,000.60	999.40
Aviation, Navy, 1921	5,779.12	5,777.33	[1] 1.79
Total (including balances from prior years)	[2] 284,435,356.73	[3] 127,137,345.71	[4] 157,298,011.02

[1] These balances, no longer available for expenditure, totaling $502.03, were returned to the departments from which the allotments originated.

[2] Includes $5,721,137.91 in annual appropriations for regular work of department for fiscal years 1921 and 1922.

[3] Includes $2,981,134.71 expended from annual appropriations for regular work of department in payment of obligations incurred during fiscal years 1921 and 1922.

[4] Includes $2,740,003.20 unexpended balances of annual appropriations for regular work of department for fiscal years 1921 and 1922

Review of Agricultural Production and Exports.

Acreage of crops in the United States.

Crop.	Annual average, 1910–1914.	1915	1916	1917	1918	1919	1920	1921	1922 [1]	1923 [1] (preliminary estimate).
CEREALS.										
Corn	105,240,000	106,197,000	105,296,000	116,730,000	104,467,000	97,170,000	101,699,000	103,740,000	102,428,000	103,112,000
Wheat	48,953,000	60,469,000	52,316,000	45,089,000	59,181,000	75,694,000	61,143,000	63,696,000	61,630,000	58,253,000
Oats	38,014,000	40,996,000	41,527,000	43,553,000	44,349,000	40,359,000	42,491,000	45,495,000	40,313,000	40,788,000
Barley	7,593,000	7,148,000	7,757,000	8,933,000	9,740,000	6,720,000	7,600,000	7,414,000	7,390,000	7,980,000
Rye	2,305,000	3,129,000	3,213,000	4,317,000	6,391,000	6,307,000	4,409,000	4,528,000	6,210,000	5,234,000
Buckwheat	826,000	769,000	828,000	924,000	1,027,000	700,000	701,000	680,000	785,000	772,000
Rice	733,000	803,000	869,000	980,900	1,118,550	1,063,000	1,336,000	921,000	1,055,000	883,000
Grain sorghums	.....	4,153,000	3,944,000	5,153,000	6,036,000	5,060,000	5,120,000	4,635,000	5,051,000	5,516,000
Total	203,664,000	223,664,000	215,750,000	225,679,900	232,309,550	233,073,000	224,499,000	231,109,000	224,862,000	222,518,000
VEGETABLES.										
Potatoes	3,686,000	3,734,000	3,565,000	4,384,000	4,295,000	3,542,000	3,657,000	3,941,000	4,331,000	3,892,000
Sweet potatoes	611,000	731,000	774,000	919,000	940,000	941,000	992,000	1,066,000	1,116,000	1,007,000
Beans (commercial)	.....	928,000	1,107,000	1,821,000	1,744,000	1,060,000	847,000	777,000	1,043,000	1,255,000
Onions (commercial)	.....	.....	.....	64,580	65,400	52,830	65,550	58,070	64,780	62,360
Cabbage (commercial)	.....	.....	.....	93,090	111,940	94,300	121,421	104,060	136,860	102,070
Total	4,297,000	5,393,000	5,446,000	7,281,670	7,156,340	5,690,130	5,682,971	5,946,130	6,691,640	6,318,730
MISCELLANEOUS.										
Cranberries (3 States)	.....	23,100	26,200	18,200	25,400	25,000	25,000	25,000	25,000	25,000
Flaxseed	2,402,000	1,387,000	1,474,000	1,984,000	1,910,000	1,503,000	1,757,000	1,106,000	1,251,000	2,235,000
Sugar beets	498,122	611,301	665,308	664,797	594,010	692,455	871,676	814,988	530,247	732,000
Tobacco	1,209,000	1,369,900	1,413,400	1,517,800	1,647,100	1,951,000	1,960,000	1,427,000	1,725,000	1,762,000
All hay	66,356,000	67,904,000	72,356,000	71,415,000	71,120,000	74,038,000	73,888,000	74,401,000	77,050,000	76,029,000
Cotton	35,330,000	31,412,000	34,965,000	33,841,000	36,008,000	33,566,000	35,878,000	30,509,000	33,036,000	38,287,000
Sorghum cane for sirup	.....	.....	.....	415,200	421,600	487,000	536,000	518,000	448,000	402,000
Peanuts	.....	.....	1,043,000	1,842,000	1,865,000	1,132,000	1,181,000	1,214,000	966,000	918,000
Broomcorn	.....	230,100	235,200	345,000	366,000	352,000	275,500	222,000	257,000	492,000
Clover seed	.....	.....	939,000	821,000	820,000	942,000	1,082,000	889,000	1,126,000	736,000
Grand total	313,756,122	331,994,401	334,333,108	345,825,567	354,243,000	353,451,585	347,636,147	348,183,118	347,987,887	350,507,730

[1] Subject to revision in December, 1923.

Crop production in the United States.

[The figures are in round thousands—i. e., 000 omitted.]

Crop.	Annual average, 1910–1914.	1915	1916	1917	1918	1919	1920	1921	1922 [1]	1923 [1]
CEREALS.										
Corn.....bushels..	2,732,457	2,994,793	2,566,927	3,065,233	2,502,665	2,811,302	3,208,584	3,068,569	2,890,712	3,029,192
Wheat.....do....	728,225	1,025,801	636,318	636,655	921,438	967,979	833,027	814,905	862,091	781,737
Oats.....do....	1,157,961	1,549,030	1,251,837	1,592,740	1,538,124	1,184,030	1,496,281	1,078,341	1,201,436	1,302,453
Barley.....do....	186,208	228,851	182,309	211,759	256,225	147,608	189,332	154,946	186,118	199,251
Rye.....do....	37,568	54,050	48,862	62,933	91,041	75,483	60,490	61,675	95,497	64,774
Buckwheat.....do....	17,022	15,056	11,662	16,022	16,905	14,399	13,142	14,207	15,050	14,511
Rice.....do....	24,378	28,947	40,861	34,739	38,606	41,965	52,066	37,612	41,965	32,737
Grain sorghums.....do....	.....	114,460	53,858	61,409	73,241	130,734	137,408	113,990	90,381	103,506
Total.....	4,883,819	6,010,988	4,792,634	5,681,490	5,438,245	5,373,520	5,990,330	5,344,245	5,383,250	5,528,161
VEGETABLES.										
Potatoes.....bushels..	360,772	359,721	286,953	442,108	411,860	322,867	403,296	361,659	451,185	416,722
Sweet potatoes.....do....	57,117	75,639	70,955	83,822	87,924	97,126	103,925	98,654	109,534	97,429
Beans (commercial).....do....	.....	10,321	10,715	16,045	17,397	13,349	9,185	9,150	11,893	14,936
Onions (commercial).....do....	.....	7,664	8,562	12,376	19,336	11,398	23,525	14,440	19,129	16,508
Cabbage (commercial).....tons..	.....	671	255	475	498	357	982	678	1,117	824
FRUITS.										
Peaches.....bushels..	45,842	64,097	37,505	48,765	33,094	53,178	45,620	32,602	56,705	45,555
Pears.....do....	11,184	11,216	11,874	13,281	13,362	15,006	16,805	11,297	18,661	15,335
Apples.....do....	197,898	230,011	193,905	166,749	169,625	142,086	223,677	99,002	201,252	193,855
Cranberries (3 States).....bbls..	.....	441	471	249	352	549	449	384	568	619
MISCELLANEOUS.										
Flaxseed.....bushels..	18,353	14,030	14,296	9,164	13,369	7,256	10,774	8,029	11,668	19,343
Sugar beets.....tons..	5,391	6,511	6,228	5,980	5,949	6,421	8,538	7,782	5,183	6,667
Tobacco.....pounds..	991,958	1,062,287	1,153,278	1,249,276	1,439,071	1,465,481	1,582,225	1,069,693	1,324,840	1,436,738
All hay.....tons..	81,640	107,263	110,992	98,439	91,139	104,760	105,315	97,770	112,791	102,914
Cotton.....bales..	14,259	11,192	11,450	11,302	12,041	11,421	13,440	7,954	9,762	10,248
Sorghum sirup.....galls..	14,974	14,823	13,668	37,472	33,387	39,413	49,505	45,566	36,532	33,643
Peanuts.....pounds..	.....	.....	919,028	1,432,581	1,240,102	783,273	841,474	829,307	623,507	647,589
Broomcorn.....tons..	.....	52	39	57	62	53	36	38	35	68
Clover seed.....bushels..	.....	.....	1,706	1,498	1,197	1,484	1,944	1,538	1,875	1,121

[1] Subject to revision in December, 1923.

Exports of domestic foodstuffs and cotton from the United States.

[Reports of Bureau of Foreign and Domestic Commerce, United States Department of Commerce.]

Article exported.	Annual average, 1910–1914.	Year ending June 30—							
		1916	1917	1918	1919	1920	1921	1922	1923
Wheat.....bushels..	56,913,228	173,274,015	149,831,427	34,118,853	178,582,673	122,430,724	293,267,637	208,321,091	154,950,971
Wheat flour.....barrels..	10,678,635	15,520,669	11,942,778	21,879,951	24,181,979	21,651,961	16,179,956	15,796,824	14,882,714
Oats.....bushels..	8,304,203	95,918,884	88,944,401	105,837,309	96,360,974	33,944,740	4,302,346	15,987,264	18,573,603
Rye.....do....	854,765	14,532,437	13,260,015	11,990,123	27,540,188	37,463,285	45,735,052	29,683,602	51,411,550
Barley.....do....	7,895,521	27,473,160	16,381,077	26,285,378	20,457,781	26,571,284	20,457,198	22,400,393	18,192,809
Corn.....do....	39,809,690	38,217,012	64,720,842	40,997,827	16,687,538	14,467,926	66,911,093	176,385,614	94,064,053
Total, 5 cereals and flour.....pounds..	8,429,735,124	20,780,577,136	19,330,110,628	13,951,418,808	21,996,905,576	16,859,428,924	28,195,134,292	28,722,130,372	21,828,314,100
Sugar.....do....	70,976,908	1,630,150,863	1,248,908,286	576,483,050	1,115,865,161	1,444,030,665	582,698,488	2,002,038,652	749,855,325
Dairy products:									
Butter.....do....	4,277,955	13,487,481	26,835,092	17,735,966	33,739,960	27,155,834	7,829,255	7,511,997	9,409,837
Cheese.....do....	4,915,502	44,394,301	66,050,013	44,303,076	18,791,553	19,378,158	10,825,603	7,471,452	8,446,321
Milk (condensed)....do....	15,773,900	159,577,620	259,141,231	528,759,232	728,740,509	710,533,270	266,506,031	288,628,298	159,956,707
Total dairy products .....pounds..	24,967,357	217,459,402	352,026,336	590,798,274	781,272,022	757,067,262	285,160,889	303,611,747	177,812,865
Meat and meat products:									
Canned beef.....do....	9,392,122	50,803,765	67,536,125	97,343,283	108,459,660	31,133,918	10,762,986	3,748,486	2,301,499
Fresh beef.....do....	29,452,302	231,214,000	197,177,101	370,032,900	332,205,176	153,560,647	21,084,203	3,993,449	4,077,002
Pickled beef.....do....	32,893,172	38,114,682	58,053,667	54,467,910	45,065,641	32,383,501	23,312,856	26,774,124	24,185,263
Oleo oil.....do....	280,224,505	102,645,914	67,110,111	56,603,388	59,292,122	74,529,494	106,414,800	117,174,260	104,956,378
Oleomargarine.....do....	3,268,279	5,426,221	5,651,267	6,309,896	18,570,400	20,952,180	6,219,165	1,989,421	2,027,546
Stearin.....do....	[1] 3,234,533	13,062,247	12,936,357	10,360,030	11,537,284	22,505,602	19,177,311	32,560,766	70,767,939
Tallow.....do....	29,008,749	16,288,743	15,209,369	5,014,964	16,172,111	32,937,026	16,843,868	27,658,097	25,664,985
Canned pork.....do....	4,227,086	9,610,732	5,896,126	5,194,468	5,273,329	3,261,967	1,118,967	2,263,102	2,761,121
Fresh pork.....do....	2,023,911	63,005,524	50,435,615	21,390,288	19,644,388	27,224,941	57,075,446	25,911,193	43,501,610
Bacon.....do....	182,474,092	579,808,786	667,151,972	815,294,424	1,238,247,321	803,666,861	489,298,109	350,548,952	408,282,065
Hams and shoulders.do....	166,813,134	282,208,611	266,656,581	419,571,869	667,240,022	275,455,931	172,011,676	271,641,786	319,186,689
Pickled pork.....do....	48,274,929	63,460,713	46,992,721	33,221,502	31,503,997	41,643,119	33,286,062	33,510,146	40,933,756
Lard.....do....	474,354,914	427,011,338	444,769,540	392,506,355	724,771,383	587,224,549	746,157,246	812,379,396	952,641,705
Lard, neutral.....do....	[2] 43,571,550	34,426,590	17,576,240	4,258,529	17,395,888	23,202,027	22,544,303	19,572,940	26,494,079
Lard, compounds...do....	67,318,857	52,843,311	56,359,493	31,278,382	128,157,327	44,195,842	42,155,971	30,328,175	11,139,730

Sausage, canned.....do....	6,369,268	6,823,085	6,294,950	5,787,108	8,503,580	7,034,150	4,423,723	1,963,548	2,693,636
Sausage, other.....do....	.....	8,590,236	9,134,471	9,239,341	9,721,925	14,750,963	4,926,552	7,207,829	7,719,026
Sausage, casings.....do....	33,644,928	14,708,893	6,118,060	6,173,578	13,524,093	24,379,414	29,894,681	27,768,795	20,043,425
Total, 18 meat products ..... pounds..	1,416,546,331	2,000,053,391	2,001,059,766	2,344,048,215	3,455,295,647	2,220,042,132	1,806,713,925	1,796,994,466	2,069,377,454
Total of food products mentioned above..lbs..	9,942,225,720	24,628,240,792	22,932,105,016	17,462,748,347	27,349,328,406	21,280,568,983	30,869,707,594	32,824,775,237	24,825,359,744
Cotton.....do....	4,419,802,157	3,084,070,125	3,088,080,786	2,320,511,665	2,762,946,754	3,543,743,487	2,811,388,710	3,358,878,748	2,626,732,147
Tobacco.....do....	392,183,071	443,293,156	411,598,860	289,170,686	629,287,761	506,526,449	462,797,351	463,388,521	454,410,294
Grand total.....do....	14,754,210,948	28,155,604,073	26,431,784,662	20,072,430,698	30,741,562,921	25,330,838,919	34,143,893,655	36,647,042,506	27,906,502,185

[1] 2-year average.

[2] 4-year average.

Publications of the Department.

The accompanying table gives a summary of new and reprinted publications issued by the department during the fiscal year ended June 30, 1923.

Of the bulleting, circulars, and Yearbooks there were 477 new titles and 783 reprints, making a total of 1,260 separate titles. The total editions of these amounted to 26,519,542 copies, of which 21,649,398, or more than 80 per cent, were popular Farmers' Bulletins. The following new publications were issued during the year: 62 Farmers' Bulletins, 105 department bulletins, 57 departmental circulars, and 40 soil surveys.

Of the publications of a periodical and statistical nature 7,373,465 copies were printed. These publications include the "Experiment Station Record," "Official Record," "Clip Sheet," "Weather, Crops, and Markets," and the "Journal of Agricultural Research," as well as reprints from the latter publication.

Publications issued by the Department of Agriculture during the fiscal year ended June 30, 1923.

Name series.	New.		Reprinted.		New and reprinted.	
	Number of titles.	Number of copies.	Number of titles.	Number of copies.	Number of titles.	Number of copies.
Bulletins, circulars, Yearbook, etc.:						
Farmers' Bulletins	62	2,226,915	574	19,422,483	636	21,649,398
Department bulletins	105	553,089	46	84,500	151	637,589
Department circulars	57	874,720	23	324,520	80	1,199,240
Secretary's Annual Report	1	5,000	.....	.....	1	5,000
Soil surveys	40	40,000	.....	.....	40	40,000
Yearbooks (1921 and 1922)	2	40,472	.....	.....	2	40,472
Bureau bulletins	8	30,500	8	5,000	16	35,500
Bureau circulars	1	2,500	7	10,500	8	13,000
Statistical bulletins	1	4,500	.....	.....	1	4,500
Miscellaneous circulars	10	69,000	3	28,000	13	97,000
Service and regulatory announcements	58	390,500	6	16,000	64	406,500
Miscellaneous	132	1,810,518	116	580,825	248	2,391,343
Total	477	6,047,714	783	20,471,828	1,260	26,519,542
Periodical and information publications:						
Experiment Station Record	23	165,650	.....	.....	23	165,650
Official Record	53	833,200	.....	.....	53	833,200
Clip Sheet	51	255,000	.....	.....	51	255,000
Weather, Crops, and Markets	53	6,007,000	2	14,000	55	6,021,000
Journal of Agricultural Research	17	34,000	.....	.....	17	34,000
Separates from Journal of Agricultural Research	44	63,615	1	1,000	45	64,615
Total	241	7,358,465	3	15,000	244	7,373,465
Grand total	718	13,406,179	786	20,486,828	1,504	33,893,007

List of New Farmers' Bulletins, Department Bulletins, and Department Circulars Published During Fiscal Year 1923.

Following is a list of new Farmers' Bulletins, Department Bulletins, and Department Circulars issued during the fiscal year 1923, classified by general subject matter. Farmers' Bulletins are indicated by "F. B.," department bulletins by "D. B.," and department circulars by "D. C."

Bees:
Beekeeping in the Buckwheat Regions ..... F. B. 1216
Beekeeping in the Tulip Tree Regions ..... F. B. 1222
The Insulating Value of Commercial Double-Walled Beehives .. D. C. 222

Birds and Game:
Game Laws for 1922 ..... F. B. 1288
Laws Relating to Fur-Bearing Animals, 1922 ..... F. B. 1293
Beaver Habits, Beaver Control, and Possibilities in Beaver Farming ..... D. B. 1078
Migration Records from Wild Ducks and Other Birds, Banded in the Salt Lake Valley, Utah ..... D. B. 1145
Silver-Fox Farming ..... D. B. 1151
Annual Report of the Governor of Alaska on the Alaska Game Law, 1921 ..... D. C. 225
Directory of Officials and Organizations Concerned with the Protection of Birds and Game, 1922 ..... D. C. 242
Annual Report of the Governor of Alaska on the Alaska Game Law, 1922 ..... D. C. 260
The Purpose of Bird Censuses and How to Take Them ..... D. C. 261

Cotton:
Cotton Dusting Machinery ..... F. B. 1319
One-Variety Cotton Communities ..... D. B. 1111
Self-Fertilization and Cross-Fertilization in Pima Cotton ..... D. B. 1134
Spinning Tests of Cotton Compressed to Different Densities ..... D. B. 1135
Comparative Spinning Tests of Superior Varieties of Cotton (Grown Under Weevil Conditions in the Southeastern States; Crop of 1921) ..... D. B. 1148
Boll-Weevil Cotton in Texas ..... D. B. 1153
The Uniformity of Pima Cotton ..... D. C. 247
Grounding Cotton Gins to Prevent Fires ..... D. C. 271

Forestry and Trees:
Slashed Pine ..... F. B. 1256
Tree Planting in the Great Plains Region ..... F. B. 1312
Utilization of Basswood ..... D. B. 1007
Longleaf Pine ..... D. B. 1061
Oleoresin Production: A Microscopic Study of the Effects Produced in the Woody Tissues of Southern Pines by Different Methods of Turpentining ..... D. B. 1064
Natural Reproduction of Western Yellow Pine in the Southwest D. B. 1105
The Western Yellow Pine Mistletoe, Effect on Growth and Suggestions for Control ..... D. B. 1112
Development of Cooperative Shelter-Belt Demonstration on the Northern Great Plains ..... D. B. 1113
Lumber Cut of the United States, 1870–1920 ..... D. B. 1119
The Formation and Pathological Anatomy of Frost Rings in Conifers Injured by Late Frosts ..... D. B. 1131
Kiln-Drying Handbook ..... D. B. 1136
Forest Products Laboratory ..... D. C. 231
State Forestry Laws of 1921 ..... D. C. 239
The National Forests of New Mexico ..... D. C. 240
Forest Fires in California, 1911–1920: An Analytical Study ..... D. C. 243
Turpentine and Rosin, Distribution of the World's Production, Trade, and Consumption ..... D. C. 258

Forage Crops:
Important Cultivated Grasses ..... F. B. 1254
Business Methods of Marketing Hay ..... F. B. 1265
The Velvet Bean ..... F. B. 1276
How to Grow Alfalfa ..... F. B. 1283
Cowpeas: Marketing the Seed Crop ..... F. B. 1308
Alfalfa-Root Studies ..... D. B. 1087
History and Seed Production of Purple Vetch ..... D. C. 256

Fruits:
Apple-Orchard Renovation ..... F. B. 1284
The Handling, Shipping, and Cold Storage of Bartlett Pears in the Pacific Coast States ..... D. B. 1072

Fruits—Continued.
Inspection of Fruit and Vegetable Canneries ..... D. B. 1084
The Saidy Date of Egypt: A Variety of the First Rank Adapted to Commercial Culture in the United States ..... D. B. 1125
The Freezing Temperatures of Some Fruits, Vegetables, and Cut Flowers ..... D. B. 1133
Evaporation of Fruits ..... D. B. 1141
By-products from Citrus Fruits ..... D. C. 232
Grain Crops:
The Hard Red Winter Wheats ..... F. B. 1280
The Hard Red Spring Wheats ..... F. B. 1281
Foreign Material in Spring Wheat ..... F. B. 1287
The Bulk Handling of Grain ..... F. B. 1290
The Common White Wheats ..... F. B. 1301
The Club Wheats ..... F. B. 1303
The Durum Wheats ..... F. B. 1304
The Soft Red Winter Wheats ..... F. B. 1305
Use of Water by Spring Wheat on the Great Plains ..... D. B. 1004
Classification of American Wheat Varieties ..... D. B. 1074
Farm and Terminal-Market Prices: Wheat, Corn, and Oats ..... D. B. 1083
Methods of Winter-Wheat Production at the Fort Hays (Kansas) Branch Station ..... D. B. 1094
Some New Varieties of Rice ..... D. B. 1127
A Physical and Chemical Study of Milo and Feterita Kernels ..... D. B. 1129
Significance of Wheat Hairs in Microscopical Examination of Flour ..... D. B. 1130
Storage of Water in Soil and Its Utilization by Spring Wheat ..... D. B. 1139
Rice Experiments at the Biggs Rice Field Station in California ..... D. B. 1155
Influence of Spacing on Productivity in Single-Ear and Prolific Types of Corn ..... D. B. 1157
Trebi Barley, A Superior Variety of Irrigated Land ..... D. C. 208
Wild Rice ..... D. C. 229
United States Grades for Grain Sorghums. Recommended by the United States Department of Agriculture ..... D. C. 245
United States Grades for Rye. Recommended by the United States Department of Agriculture ..... D. C. 246
Home Economics:
Corn and Its Uses as Food ..... F. B. 1236
Farm Manufacture of Unfermented Apple Juice ..... F. B. 1264
Uses of Rural Community Buildings ..... F. B. 1274
How to Get Rid of Rats ..... F. B. 1302
Good Proportions in the Diet ..... F. B. 1313
Canaries: Their Care and Management ..... F. B. 1327
Digestibility of Cod-Liver, Java-Almond, Tea-Seed, and Watermelon Seed Oils, Deer Fat, and Some Blended Hydrogenated Fats ..... D. B. 1033
The Whipping Quality of Cream ..... D. B. 1075
The Production of Tulip Bulbs ..... D. B. 1082
Life History of the Kangaroo Rat ..... D. B. 1091
Vitamin B in the Edible Tissues of the Ox, Sheep, and Hog ..... D. B. 1138
Absorption and Retention of Hydrocyanic Acid by Fumigated Food Products ..... D. B. 1149
Effect of Composition on the Palatability of Ice Cream ..... D. B. 1161
Some Experiments with a Boric-Acid Canning Powder ..... D. C. 237
Homemade Apple and Citrus Pectin Extracts and Their Use in Jelly Making ..... D. C. 254
Livestock and Dairying:
Breeds of Swine ..... F. B. 1263
Sheep-killing Dogs ..... F. B. 1268
Renting Dairy Farms ..... F. B. 1272
The Stock-poisoning Death Camas ..... F. B. 1273
Organization and Management of Cooperative Livestock Shipping Associations ..... F. B. 1292
Cost of Using Horses on Corn Belt Farms ..... F. B. 1298
Cleaning Milking Machines ..... F. B. 1315
Milk-Plant Operation ..... D. B. 973

Livestock and Dairying—Continued.
Influence of Season of Freshening on Production and Income from Dairy Cows ..... D. B. 1071
Shrinkage of Soft Pork Under Commercial Conditions ..... D. B. 1086
Reindeer in Alaska ..... D. B. 1089
The Effects of Inbreeding and Crossbreeding on Guinea Pigs ..... D. B. 1090
Producers' Cooperative Milk-Distributing Plants ..... D. B. 1095
The Effect of Silage on the Flavor and Odor of Milk ..... D. B. 1097
A Method of Determining Grease and Dirt in Wool ..... D. B. 1100
Unit Requirements for Producing Market Milk in Delaware ..... D. B. 1101
The Detection of Hypochlorites and Chloramins in Milk and Cream ..... D. B. 1114
The Effects of Inbreeding and Crossbreeding on Guinea Pigs. III. Crosses Between Highly Inbred Families ..... D. B. 1121
Proportioning the Ingredients for Ice Cream and Other Frozen Products by the Balance Method ..... D. B. 1123
Dry-Land Pasture Crops for Hogs at Huntley, Mont ..... D. B. 1143
Cost of Milk Production on Forty-eight Wisconsin Farms ..... D. B. 1144
The Livestock Industry in South America ..... D. C. 228
Utility Value of Purebred Livestock ..... D. C. 235
Defects in the Quality of Butter ..... D. C. 236
Food Animals and Meat Consumption in the United States ..... D. C. 241
Tuberculin Testing of Livestock ..... D. C. 249
Woolly-Pod Milkweed: a Dangerous Stock-Poisoning Plant ..... D. C. 272

Miscellaneous:
Farmers' Telephone Companies: Organization, Financing, and Management ..... F. B. 1245
Farm Land Available for Settlement ..... F. B. 1271
Plain Concrete for Farm Use ..... F. B. 1279
Quack Grass ..... F. B. 1307
Effect of Borax in Fertilizer on the Growth and Yield of Potatoes ..... D. B. 998
Farm Management and Farm Organization in Sumter County Ga ..... D. B. 1034
Coal-Tar and Water-Gas Creosotes: Their properties and Methods of Testing ..... D. B. 1036
Tests of Drainage Dumping Plants in the Southern States ..... D. B. 1067
Farm Ownership and Tenancy in the Black Prairie of Texas ..... D. B. 1068
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By-Products from Crushing Peanuts ..... D. B. 1096
Legal Phases of Cooperative Associations ..... D. B. 1106
Tables for the Microscopic Identification of Inorganic Salts ..... D. B. 1108
Sales Methods and Policies of a Growers' National Marketing Agency ..... D. B. 1109
The Farmers' Short-Box Measuring Flume ..... D. B. 1110
Absorption by Colloidal and Noncolloidal Soil Constituents ..... D. B. 1122
The Marketing of Mill Feeds ..... D. B. 1124
The Effect of Borax on the Growth and Yield of Crops ..... D. B. 1126
The Results of Physical Tests of Road-Building Rock from 1916 to 1921, Inclusive ..... D. B. 1132
Soy and Related Fermentations ..... D. B. 1152
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Status and Results of County Agent Work in Northern and Western States, 1921 ..... D. C. 244
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Plant Insects:
The More Important Apple Insects ..... F. B. 1270
Weevils in Beans and Peas ..... F. B. 1275
Nicotine Dust for Control of Truck Crop Insects ..... F. B. 1282
Lime-Sulphur Concentrates: Preparation, Uses, and Designs for Plants ..... F. B. 1285
The Red-necked Raspberry Cane-Borer ..... F. B. 1286
The European Corn Borer and Its Control ..... F. B. 1294
Insect Enemies of Chrysanthemums ..... F. B. 1306
Control of the Common Mealybug on Citrus Fruits in California ..... F. B. 1309
The Corn Earworm: Its Ravages on Field Corn and Suggestions for Control ..... F. B. 1310
The Striped Cucumber Beetle and How to Control It ..... F. B. 1322
The Green June Beetle ..... D. B. 891
Curculios that Attack the Young Fruits and Shoots of Walnut and Hickory ..... D. B. 1006
Biology of the Lotus Borer ..... D. B. 1076
Experiments with Spray Solutions for Preventing Insect Injury to Green Logs ..... D. B. 1079
Effect of Low Temperature on the Hatching of Gipsy-Moth Eggs ..... D. B. 1080
Biology of the Papaya Fruit Fly, Toxotrypana Curvicauda ..... D. B. 1081
Broad-Nosed Grain Weevil ..... D. B. 1085
Zygobothria Nidicola, An Important Parasite of the Brown-Tail Moth ..... D. B. 1088
The Gipsy Moth on Cranberry Bogs ..... D. B. 1093
Impounding Water in a Bayou to Control Breeding of Malaria Mosquitoes ..... D. B. 1098
Summary of Insect Conditions Throughout the United States During 1921 ..... D. B. 1103
The Lead-Cable Borer or "Short-Circuit Beetle" in California ..... D. B. 1107
Chemical Changes in Calcium Arsenate During Storage ..... D. B. 1115
Natural Control of the Citrus Mealybug in Florida ..... D. B. 1117
Citrus Scab: Its Cause and Control ..... D. B. 1118
The Deterioration of Felled Western Yellow Pine on Insect-Control Projects ..... D. B. 1140
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Kernel Spot of the Pecan and Its Cause ..... D. B. 1102
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Decays and Discolorations in Airplane Woods ..... D. B. 1128
Symptoms of Wheat Rosette Compared with Those Produced by Certain Insects ..... D. B. 1137

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White-Pine Blister Rust in the Western United States ..... D. C. 226
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Tractors and Motor Trucks:
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Marketing the Early Potato Crop ..... F. B. 1316
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Seed Potatoes and How to Produce Them ..... F. B. 1332
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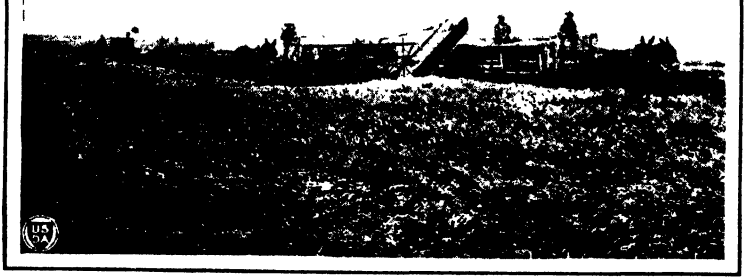
The WHEAT SITUATION



A REPORT TO THE PRESIDENT BY THE SECRETARY OF AGRICULTURE.[1]

The Price and Purchasing Power of Wheat.

THE farm price of wheat is down nearly to pre-war level and the purchasing power of a bushel is far below. The farm price August 1, for the first time since the beginning of the war, fell below the average for the corresponding month in the period 1909–1913, being 84 cents, compared with 91 cents. Since August prices have risen and are now slightly above the pre-war level. The November 1 average farm price was 95 cents. If the seasonal price movement for this year 1923–24, parallels that of last year, prices will continue to rise slightly, reaching the highest point of the season in the early spring.

The purchasing power of a bushel of wheat is more significant than the price of wheat. Although the average farm price of November 1 was above the 1909–1913 average for November, it is equivalent to only about 60 cents per bushel in the pre-war period. A suit of clothes which cost the farmer in North Dakota 21 bushels of wheat in July, 1913, cost him 31 bushels in 1923, and a wagon which then cost him 103 bushels would now cost him 166. The cost of nearly everything the farmer buys is necessarily very high because freight rates and industrial wages which enter not only into the cost of manufacturing but also the cost of transportation are far above their level before the war. With the November farm price of wheat only 107 per cent of the pre-war average price, the wholesale price of all commodities which is generally taken as a measure of the price level

[1] This report, prepared by members of the Bureau of Agricultural Economics, was submitted to the President Nov. 30, 1923. The following committee had charge of the study, under the direction of H. C. Taylor: W. A. Schoenfeld, chairman; Nils A. Olsen, executive secretary; O. C. Stine, H. R. Tolley, V. N. Valgren, O. E. Baker, W. F. Callander, and R. H. Wilcox. The committee was assisted by G. C. Haas, Donald Jackson, R. S. Washburn, H. B. Gardner, L. V. Steere, C. L. Luedtke, L. M. Harrison, M. R. Cooper, L. A. Reynoldson, E. O. Wooton, C. R. Chambers, H. Killough, A. V. Swarthout, E. B. Ballow, H. J. Besley, C. O. Brannen, R. W. Newton, G. A. Collier, H. K. Holman, jr., A. W. McKay, and R. H. Elsworth.

was 153 per cent in October.[2] On the basis of this price level the average farm price of wheat should have been about $1.35 per bushel for November to give wheat pre-war purchasing power at wholesale prices.

MONTHLY PRICES OF WHEAT AT MINNEAPOLIS, CHICAGO, AND KANSAS CITY, 1922–23.

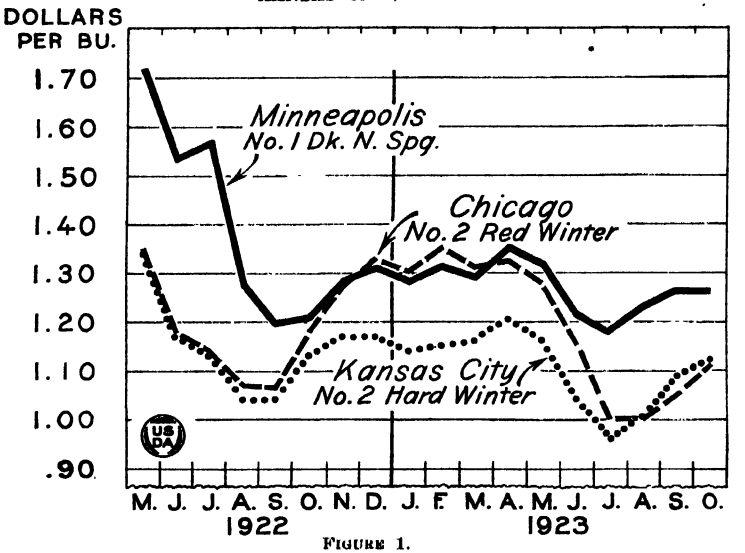


FIGURE 1.

The low price and purchasing power of wheat directly affects the income of about 2,000,000 farmers. In large areas of North Dakota, South Dakota, Kansas, Nebraska, Montana, Idaho, and Washington farmers depend almost entirely upon wheat for their cash income. According to the census of 1919, 80 per cent of the farmers in North Dakota, 76 per cent in Kansas, and 66 per cent in South Dakota grew wheat. A farm survey in the Palouse district

CHICAGO PRICE OF WHEAT AND THE PRICE ADJUSTED TO THE PURCHASING POWER OF THE 1913 DOLLAR, 1890–91 TO 1922–23.

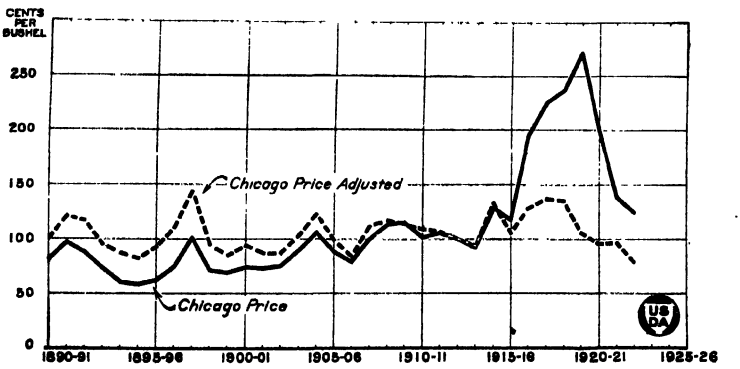


FIGURE 2.

[2] A one-year base for an individual commodity is not satisfactory. The index of the price of wheat is therefore based on the 1909–1913 average.

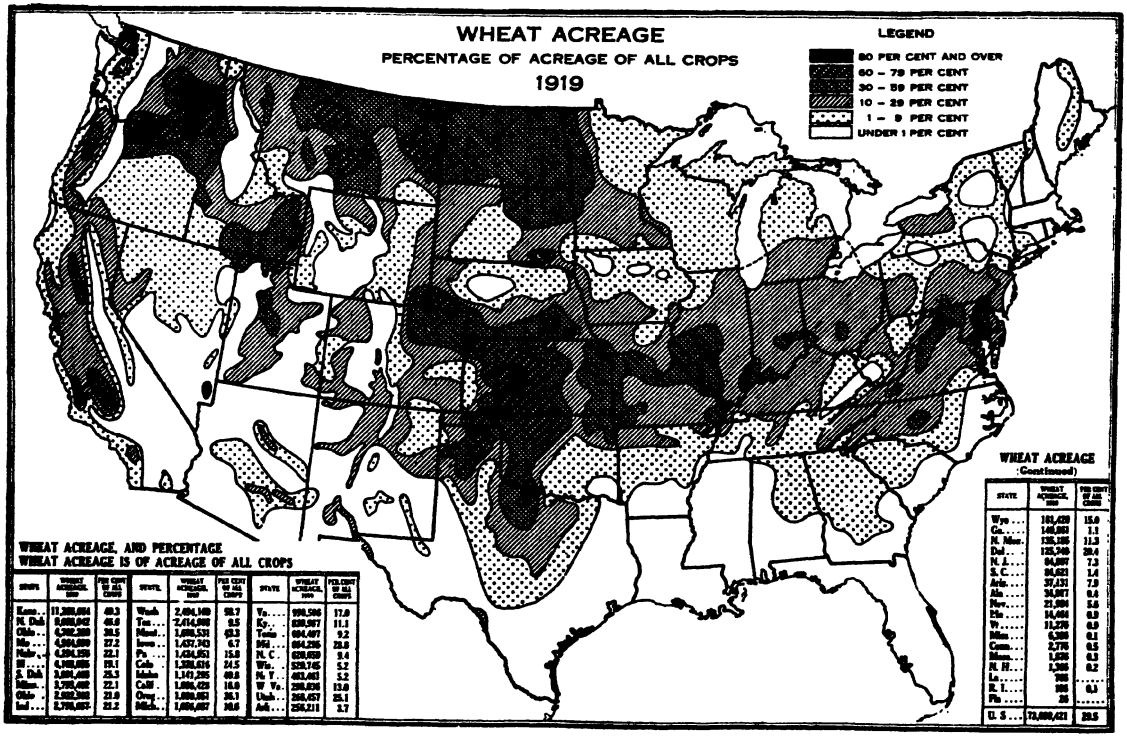

WHEAT ACREAGE
PERCENTAGE OF ACREAGE OF ALL CROPS
1919
LEGEND
80 PER CENT AND OVER
60 – 79 PER CENT
30 – 59 PER CENT
10 – 29 PER CENT
1 – 9 PER CENT
UNDER 1 PER CENT
WHEAT ACREAGE, AND PERCENTAGE
WHEAT ACREAGE IS OF ACREAGE OF ALL CROPS
WHEAT ACREAGE
(Continued)

FIGURE 3.

of Idaho and Washington for the three years 1919–1921 showed that approximately 80 per cent of the cash income of the farmers in that district was derived from wheat; and, in 1922, 78 per cent of the income of farms surveyed in Sheridan and Daniels Counties in Montana was from wheat. As a direct source of cash income the wheat crop of the United States is more important than the corn crop, a large part of which is fed to livestock. In five years ending with 1922 farmers sold on the average 711,000,000 bushels of wheat and 544,000,000 bushels of corn. Moreover, a large part of the corn sold is from one farmer to another for livestock feed. Many wheat farmers produce other commodities than wheat, but the prices of many of these, such as oats, barley, and rye, are below pre-war prices. The specialized wheat farmer, as a rule, does not produce, or produces only for home use, the commodities such as corn, butter, eggs, cotton, and wool, which are now selling at relatively high prices.

The low price and purchasing power of wheat is far-reaching in its effects, for not only the wheat farmer but practically all classes

WORLD WHEAT PRODUCTION AND THE CHICAGO PRICE, 1890–91 TO 1913–14.

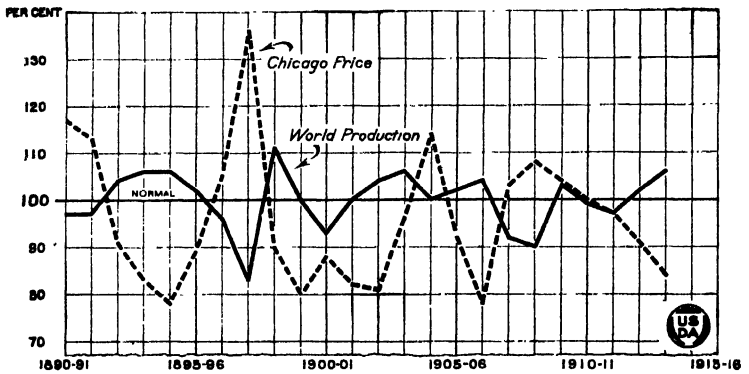


FIGURE 4.

of business men whose income depends to any extent upon the prosperity of the wheat farmer are adversely affected.

The World Bread-Grain Situation.

The price which the farmer of the United States receives for his wheat is determined largely by the world supply of wheat. As exporters, farmers in the United States receive for wheat the price paid in the world markets less the cost or charges for placing wheat or flour in those markets. Chicago prices follow closely the price in Liverpool and other large world markets, and farm prices follow closely Chicago prices.

The present prospects are that the total world production of wheat outside of Russia in the year 1923–24 may be over 3,400,000,000 bushels,[3] or 300,000,000 bushels greater than last year and 500,000,000

[3] All estimates of production for 1923–24 are subject to change by report of revisions and by receipt of official estimates for countries not officially reported.

greater than the pre-war average production of the same countries. Since Russia exported annually 1909–1913 (crop movement years) only 164,000,000 bushels of wheat, the increase in production outside of Russia makes up for the loss of Russian exports and increases the supply by more than 300,000,000 bushels. The world production of rye, which has an important influence upon the wheat market, especially in Europe, may be 970,000,000 bushels, or 131,000,000 bushels greater than last year, but 64,000,000 below the pre-war production in the same territory. Since Russia annually exported 29,000,000 bushels before the war, the world production outside of Russia is still 93,000,000 bushels short on rye. Adding together wheat and rye, the indicated supply of bread grains for

UNITED STATES FARM PRICE OF WHEAT AND WHEAT PRICES AT CHICAGO AND LIVERPOOL, 1890–91 TO 1921–22.

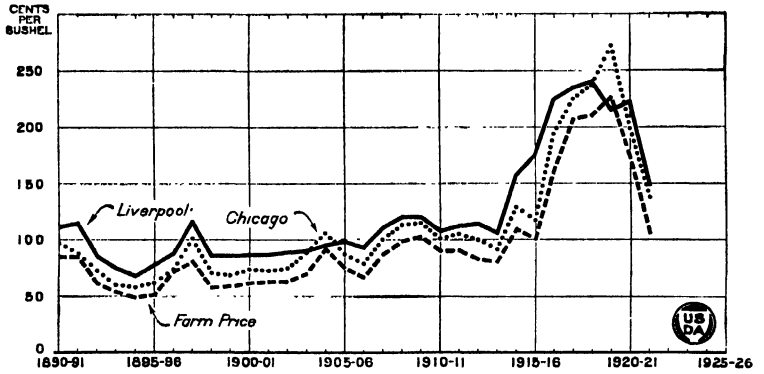


FIGURE 5.

the year 1923–24 outside of Russia is over 400,000,000 bushels greater than last year and more than 200,000,000 in excess of the average pre-war supply.

The Consumption of Bread Cereals in Europe.

War has had a marked effect upon the bread grain consumption of some European countries as well as of the United States. The present population of Europe is about the same as 10 years ago. The standard of living in some countries has been lowered and cheaper foods substituted for wheat. Wheat has been conserved by "long milling," mixing, and by feeding less to livestock. The per capita consumption of wheat in the United Kingdom has remained remarkably constant during the last 14 years but declined slightly during the war. In France per capita wheat consumption, including seed, was reduced from an average of 9.3 bushels during the period 1909–1913 to an average of 7.4 bushels during the war period 1914–1918. Since then the average has increased to 7.7 bushels. Milling restrictions are still in force requiring the mixing of from 8 to 10 per cent of substitutes with wheat flour. The per capita supply of bread grains has been considerably below normal also in Germany and Austria. Notwithstanding that the European production of wheat outside of Russia in 1922 was nearly 300,000,000

bushels less than the pre-war average and that prices were relatively low, the net import of these countries in the year 1922–23 was only about 200,000,000 bushels greater than the pre-war net import.[4] The import of rye also has failed to make up for the decrease in production in importing countries.

Some increase in European consumption may be expected. It is significant that a large part of the increase in production this year as compared with last is in Europe. Outside of Russia the European wheat crop is about 245,000,000 bushels or 23 per cent greater and the rye crop 165,000,000 bushels, also 23 per cent greater than last year. The producers in many European countries are now complaining of low prices and may consequently market a smaller proportion of the crop than was marketed last year. Low prices both at interior markets and at import points may encourage a larger per capita consumption by the urban population. The reduction in the potato crop this year as compared with last will also contribute to an increase in the wheat and rye consumption. The experience of the last two years supports these assumptions. The European wheat crop of 1921 was estimated to be 1,216,000,000 bushels, only 70,000,000 below the estimates for the present year, and Europe imported about 515,000,000 net; whereas last year with a crop of only 1,026,000,000 bushels, but with a very large potato crop, net imports amounted to only approximately 567,000,000 bushels. It seems, therefore, that notwithstanding some increase in production, European importing countries may import 500,000,000 bushels of wheat in 1923–24. If the per capita consumption of European countries is not increased over last year an importation of 400,000,000 bushels will meet all requirements.

European surplus producing countries are prepared to supply deficit countries with from 40,000,000 to 80,000,000 bushels of wheat. The five important surplus-producing countries outside of Europe could supply the European countries the maximum quantities that they will take, export 150,000,000 bushels to countries outside of Europe and have larger quantities than last year to consume or carry over in stocks.

Foreign Competition Increasing.

Looking ahead beyond this season, prospects are not good for marketing a surplus of wheat at satisfactory prices. European agriculture is returning to pre-war productiveness. Last year Russia exported some rye and a little wheat. The area of all cereals this year is estimated to be 20 per cent greater than last, but yields are lower and the total crop probably will be about the same as last year. Great efforts are being made to export both wheat and rye, and already this year's exports exceed the total for last year. The increase in the area of crops in Russia is a definite indication of a tendency to return to an export basis.

High prices during the war period greatly stimulated production in Canada. Since the war low prices for cattle in Australia and Argentina have encouraged the production of more wheat. In

[4] The net imports of European importing countries, 1922–23, preliminary 567,000,000 bushels wheat and flour as wheat; 1921–22, 535,000,000; 1909–1913, 505,000,000, of which European exporting countries supplied about 11,000,000, 20,000,000 and 272,000,000, respectively.

Canada, since the western Provinces are better suited to produce wheat as a cash crop than to produce anything else for market, the area and production of wheat continue to expand. With small populations these countries must either find foreign markets for a large part of their crops or abandon a considerable area of wheat production. It is evident, therefore, that competition for the European markets will be increasingly keen and will tend to eliminate those countries in which the relative cost of production is highest.

Foreign competition is becoming increasingly keen, not only in quantity but also in quality of wheat and flour produced. The return of Russia will bring back into the market a large supply of Durum wheat in competition with the United States and North Africa. The expansion of production in Canada increases the quantity of high-grade hard wheat available to European markets, and the flour made from this wheat is gaining in reputation in Europe.

The commercial, financial, and political relations of some European buyers make it more advantageous for them to purchase wheat from our competitors than from the United States. In so far as business interests follow the flag, the colonies and dependencies of the United Kingdom and France are in favorable positions for marketing their surplus wheat, and the war has strengthened their positions. The purpose of the recent negotiations between business men in Germany and in the United Kingdom with Russian organizations is to facilitate the exchange of manufactured goods for grain and other Russian raw materials.

High and fluctuating exchange rates also handicap the United States in trading with European countries. In the past year German grain dealers have had great difficulty in financing imports, not only because of the fluctuations in exchange but also on account of restrictions upon the purchase of exchange. In some cases exporters of other countries are more liberal in terms of sale than are the exporters of the United States. For example, it is reported that whereas Canadian mills are quite satisfied to accept cash documents, Hamburg, American mills will sell only on New York sight draft, which handicaps the German importer who would buy from the United States.

American credit advances on favorable terms to German importers would facilitate the sale of American grain and flour in Germany. German importers need short-time credit at reasonable rates. A large grain importing company has expressed a keen interest in any possibility of securing American credit on easier terms for the handling of grain imports into Germany. This company reports that the restricted capital which they have available for extending credits limits sales of American wheat and flour, that they could sell much more if they had "gold capital" with which to work. They further report that the company has been doing a good and steady business in both wheat and flour with America and Canada, and that even in the first week in October, when German business seemed at a standstill, they had continued to do a steady business. They were able to carry on this business, however, only by taking up foreign documents and giving short-term credit to a selected list of mills and wholesalers. The losses on credit ad-

vances thus far have been almost negligible in relation to the volume of their business.

German banking and credit organizations also have made proposals for the financing of American grain in Germany. By their suggestion banks would arrange to provide securities for an American exporter, or they would take over the documents as trustee and cover these documents by special contract or acceptance against the mills receiving the grain, which would remain the property of the seller until payment was made.

To summarize briefly, changes in international, commercial, financial, and political relations, as well as the increase in quantity and improvement in quality of wheat produced by competing countries, have increased the difficulty of selling our surplus wheat.

Distribution of the Wheat Crop of the United States.

The estimated production of wheat in the United States, plus estimated carry over in the form of both wheat and flour, amounts to 893,000,000 bushels or 57,000,000 bushels less than the available supply of domestic wheat for last year.

The amount of wheat that farmers retain on the farm for seed, feed, and reserves varies so much from year to year that no definite figure can be given as the requirement for this year. It is estimated that nearly 89,500,000 bushels of last year's crop was used for seed. In August of this year the winter wheat producers declared their intention to reduce the acreage in wheat about 15 per cent. A favorable seeding season in some parts of the winter wheat belt has probably encouraged farmers to sow a little more wheat than they had intended. If they reduce 10 per cent, the amount of seed required will be about 80,000,000 bushels. In a recent survey, however, farmers estimated seed requirements for the year at 9.3 per cent or 72,700,000 bushels. Farmers have declared their intention to feed this year 11.6 per cent of the crop. Feeding this percentage of the crop would take off the market 90,700,000 bushels. At the time this survey was taken the price of corn was high and the price of wheat so low that in parts of the country it was economical to feed wheat rather than corn. If the price of wheat improves toward the end of the year and the price of corn declines as the new crop comes into the market, the amount of wheat fed may be less than the amount intended. Stocks on farms at the end of last year amounted to over 35,600,000 bushels. Farmers will have to retain on the farms 199,000,000 bushels if declared intentions as to feeding and seeding are carried out and stocks on farms at the end of the year are the same as last year. This is probably a maximum figure and may be reduced to 150,000,0000 bushels by failure to carry out fully expressed intentions.

On the basis of the above estimates, at the beginning of the year between 694,000,000 and 743,000,000 bushels of wheat were available for food and reserves in the United States and for export. There is no exact measure of the annual food consumption. The per capita consumption last year computed on the basis of flour production and disappearance was 4.7 bushels. The per capita disappearance of wheat for food and feed was about 5 bushels. Reports from farmers indicate that the usual feeding is 3.5 per cent less than the intentions

for this year. Applying this estimate to last year's production would reduce the per capita food consumption to 4.35, which seems too low. At the higher rate of 4.7 per capita, 523,000,000 bushels would be required for food, leaving between 171,000,000 and 220,000,000 bushels for reserves and exports. Of this amount between 95,000,000 and 134,000,000 bushels could be exported without reducing stocks below the amount on hand at the end of last year. The amount exported may be increased, of course, by reducing stocks or maintaining a per capita consumption lower than that for which allowance has been made.

Farm marketing this year has progressed about as usual. By October 1, 48 per cent of the crop had been marketed as compared

SEASONAL MARKETING OF WHEAT FROM FARMS, SEASONAL RECEIPTS AT 11 MARKETS, AND SEASONAL EXPORTS. AVERAGE, JUNE, 1910–JUNE, 1920.

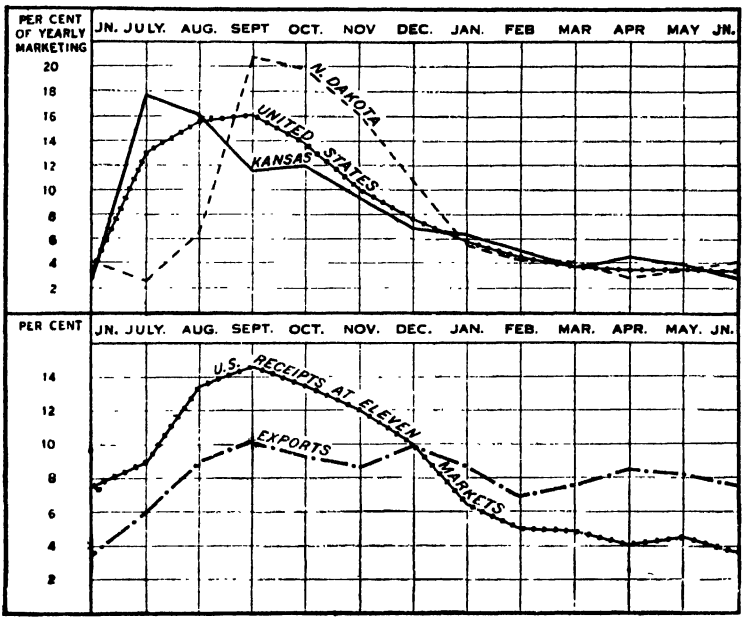


FIGURE 6.

with 50 per cent for the same period last year, 57 per cent in 1921, and 41 per cent in 1920. Approximately 70 per cent of the farm sales for the year will have been made by December 1.

Exports in the first four months of the year amounted to 74,000,000 bushels, as compared with 115,000,000 bushels last year. Last year 52 per cent of the total exports was shipped in the first four months of the year. At this rate of exportation the total exports for this year would be about 142,000,000 bushels. Since crops in Europe are good this year, it is doubtful that this rate will be maintained. In 1921–22 the exports in this period were 58 per cent of the total, on the basis of which the exports for this year would be only 128,000,000 bushels.

The above export figures do not take into account imports which amounted to 20,000,000 bushels last year. An increase in the imports would, of course, make possible larger exports.

Location and Character of Our Wheat Supply.

The location of production, the class and the quality of wheat are important factors in marketing it. Only five States east of the Mississippi River produced in 1923 more than they would consume at the pre-war rate of consumption, and the surplus in these States would be far short of supplying the needs of the other States east of the river. As a matter of fact some of this wheat is exported, and wheat and flour from territory between the Mississippi and the Rocky Mountains are shipped east to replace exports and to make up deficiencies in production.

The production of wheat west of the Rockies is estimated to be 143,000,000 bushels, which is 43,000,000 bushels greater than last year. On the basis of apparent average annual consumption as food and

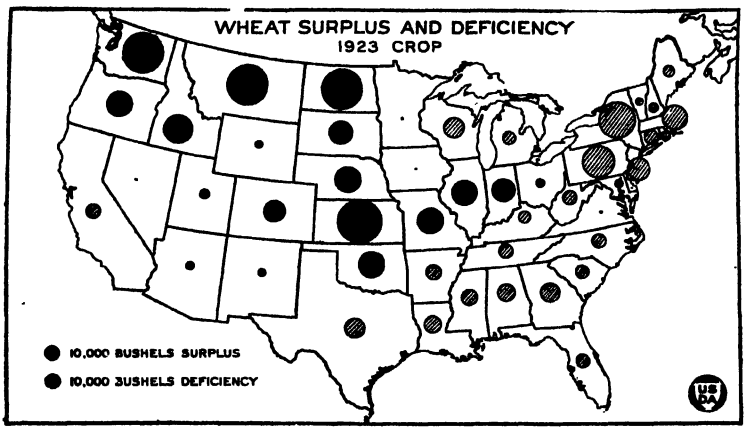


FIGURE 7.

feed in the last five years, 1918–1922, this region could export 92,000,000 bushels in the form of wheat and flour.[5] If the amount fed to livestock in this part of the country is increased by 5,000,000 bushels, the amount available for export would be 87,000,000 bushels, provided the food consumption of wheat is not increased. The production east of the Rockies this year is 117,000,000 bushels less than last year. However, on the basis of the average disappearance in 1918–1922, this region could export approximately 83,000,000 bushels. If feeding east of the Rockies is increased by 22,000,000 bushels, the amount available for export would be 61,000,000 without reducing stocks or increasing food consumption. Even though there were only enough wheat east of the Rockies to supply domestic needs, under present conditions some wheat would be exported and other wheat would be imported from Canada. The special demand for Hard

[5] Computed on the basis of the average annual disappearance in the United States for food and feed distributed per capita by States as found in a survey made in 1911, and seed requirements with a reduction of 15 per cent in the winter wheat area. Spring wheat area same as last year.

Red Spring wheat causes some of this class to be imported even though some of the soft wheats have to be sent to markets outside of the United States.

Comparing estimates of production by classes this year with last year we find that there has been a considerable decrease in the production of Hard Red Spring wheat, Durum, and Hard Red Winter. On the other hand there has been an increase in the production of Soft Red Winter and White wheats. The records of Federal grain inspection throw some light on the marketing of the different classes. Unfortunately for the purpose of this study, the exports of flour can not be distributed to classes of wheat.

The 1923 crop of Hard Red Spring is estimated to be about 134,000,000 bushels, which is 23,000,000 bushels less than the average of the three years 1920–1922. Exports, including inspections at Gulf and seaboard points and estimates of shipments through Canada and of shipments mixed with other wheat, averaged in this period about

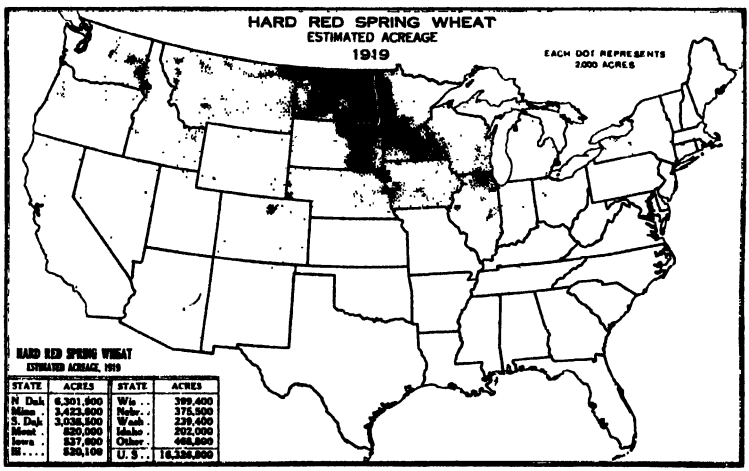


FIGURE 8.

25,000,000 bushels. Imports from Canada have contributed to the available supply about 28,000,000 bushels per year, 50,000,000 in 1920–21, and smaller amounts since then. The average disappearance in the United States, therefore, for the years 1920–1922 was greater than the estimated production for 1923. Presumably some of this wheat was exported in the form of flour, but we have no measure of the amount. It is evident that there is a shortage of Hard Red Spring wheat to meet the mill demand in the United States for such wheat, and consequently the market for this wheat is now upon an import basis, with prices determined to a large extent by the price at which Canada will sell spring wheat plus the tariff and other costs of bringing it into this country.

Notwithstanding that the crop of Durum wheat this year is but little more than one-half of the crop last year, being 46,000,000 bushels compared with 85,000,000 bushels, the market for this wheat is upon an export basis. The average production for the three years 1920–1922 was 59,000,000 bushels, of which approximately 35,000,000

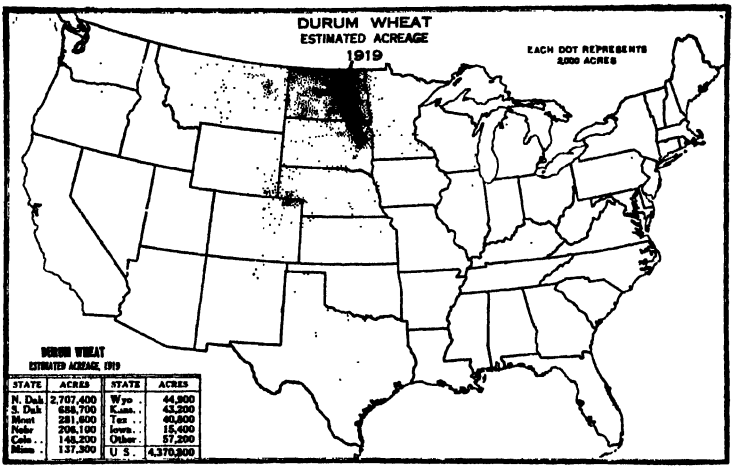


FIGURE 9.

bushels were exported, leaving only about 24,000,000 bushels for use in the United States. Therefore, unless consumption is increased over the average, approximately 22,000,000 bushels may be exported in 1923–24 without reducing stocks. About one-half of this amount was exported in the first four months of the year.

In recent years Hard Red Winter wheat has constituted a considerable part of our exports. The production of this wheat in 1923 was approximately 220,000,000 bushels, which is 48,000,000 bushels less than last year and 59,000,000 bushels less than the average of 1920–1922. The average export in the three years 1920–1922 has amounted to about 95,000,000 bushels. The reduction in the crop leaves only about 46,000,000 bushels available for export without reducing the average available supply. Some increase in feeding and in the use of this wheat to mix with hard spring in the manufacture of flour will provide an outlet for some of the balance other-

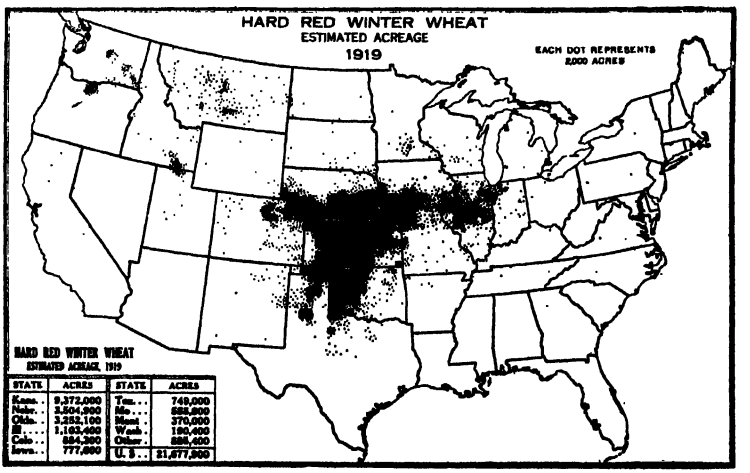


FIGURE 10.

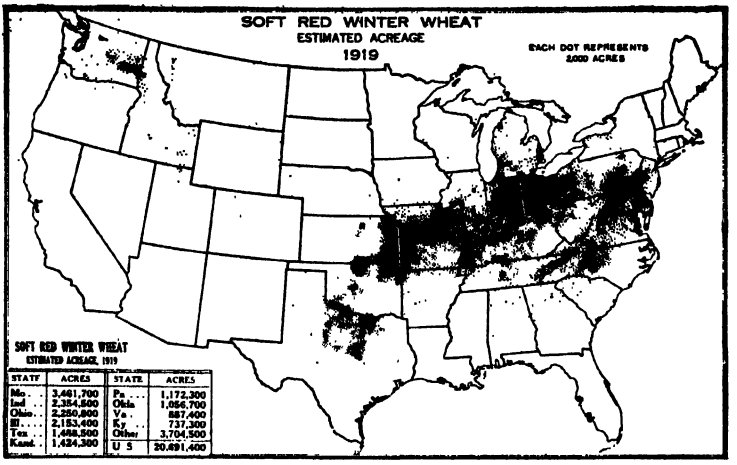


FIGURE 11.

wise available for export. Over 13,000,000 bushels of this wheat have been exported and our markets are still on an export basis, although good premiums are being paid for hard winter wheat with high gluten content, which indicates that there is a strong domestic milling demand for the best quality of this wheat.

Both the Soft Red Winter and the White wheats are on an export basis. The production of the Soft Red Winter is estimated to be about 265,000,000 bushels, which is 21,000,000 bushels above the average of 1920–1922. Exports amounted to about 30,000,000 bushels. The increase in production would therefore increase the amount available for export to about 50,000,000 bushels. The production of White wheat is 20,000,000 bushels in excess of the average of the past three years, making a total of 117,000,000 bushels, of which about 50,000,000 may be exported without reducing stocks or domestic consumption. Increased feeding will reduce the exportable

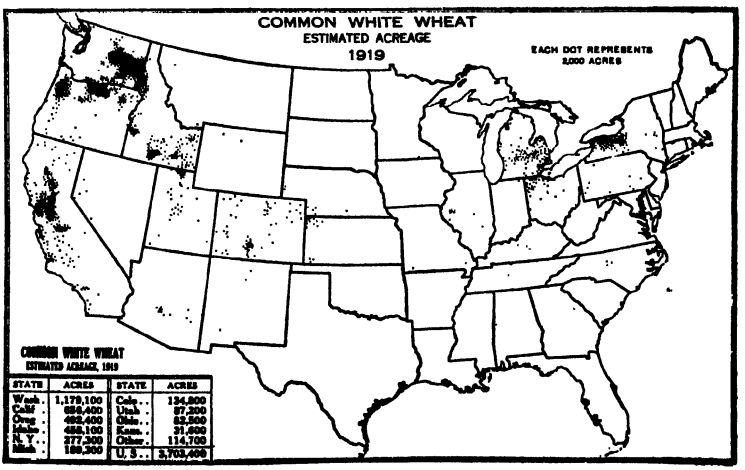


FIGURE 12.

surplus of these two classes of wheat by about 15,000,000 bushels, leaving about 85,000,000 to be exported unless further reduced by increased food consumption.

The export of flour also must be taken into account in considering the market for wheat. The exports of flour in the past three years have averaged 15,620,000 barrels, or an equivalent of 70,290,000 bushels of wheat. The exports of flour in four months this year have amounted to 6,000,000 barrels, or 27,000,000 bushels. It is evident that unless millers pursue the policy of dumping flour into foreign countries at prices somewhat below the domestic price, the price that they can pay for wheat to make flour is determined by the market for the wheat abroad as well as the market for the flour. A considerable amount of flour exported, however, is of the lower grade. The selling of the lower grade at relatively low prices is one means of disposing of the surplus flour while retaining in the country the wheat offals and the best grade of flour for domestic consumption. As long as the domestic demand for high-grade flour and wheat offals is strong, millers may pay better prices for wheat than they could afford to pay if the market for a considerable amount of the best grade of the flour had to be found abroad.

To summarize the situation relative to a market for surplus wheat, it may be said that for this year it is necessary to find a market for a considerable quantity of Soft Red and Soft White, some Hard Red Winter and Durum wheat. Domestic millers will pay relatively good prices for the highest grades of wheat to be used in the manufacture of flour for the domestic market. The market for Hard Spring is on an import basis, whereas the markets for other wheats are on an export basis with premiums for some of the best wheat. At the present rate of export it is probable that before the end of the year the market for some of the other classes of wheat also may be on an import basis, at least for some grades.

The problem of disposing of the surplus wheat will diminish from year to year as the population increases and consequently the demand for domestic consumption increases. It must not be expected, however, that the demand will immediately return to the pre-war basis and increase in proportion as the population increases. There was before the war an apparent reduction in per capita consumption. Such data as are available indicate that the urban consumption of wheat is less than the rural consumption. As the proportion of industrial population increases the consumption per capita may decrease. At the rate of 5 bushels per capita for food, which is slightly less than the pre-war average and a slight increase over last year, about 670,000,000 bushels of wheat would be required for seed, the usual feed and waste, and for food in the United States in 1924–25. With a ten-year average yield per acre of 14.4 bushels, nearly 47,000,000 acres would be required to produce it. Allowing for average losses in winter wheat area, about 52,000,000 should be sown. This is a reduction from the area seeded last year of 13,000,000 acres, or 20 per cent. This reduction properly distributed among growers of Durum, Hard Winter, Soft Red, and White Winter wheat would take all classes off the export market basis except in years when yields were above the average. The area may be increased annually by about 1 per cent to meet the increase in demand by growth of population.

PRICES OF WHEAT, WHEAT FLOUR, AND BREAD AT MINNEAPOLIS AND OF WHEAT FLOUR AT NEW YORK CITY, 1913–14 TO 1922–23.

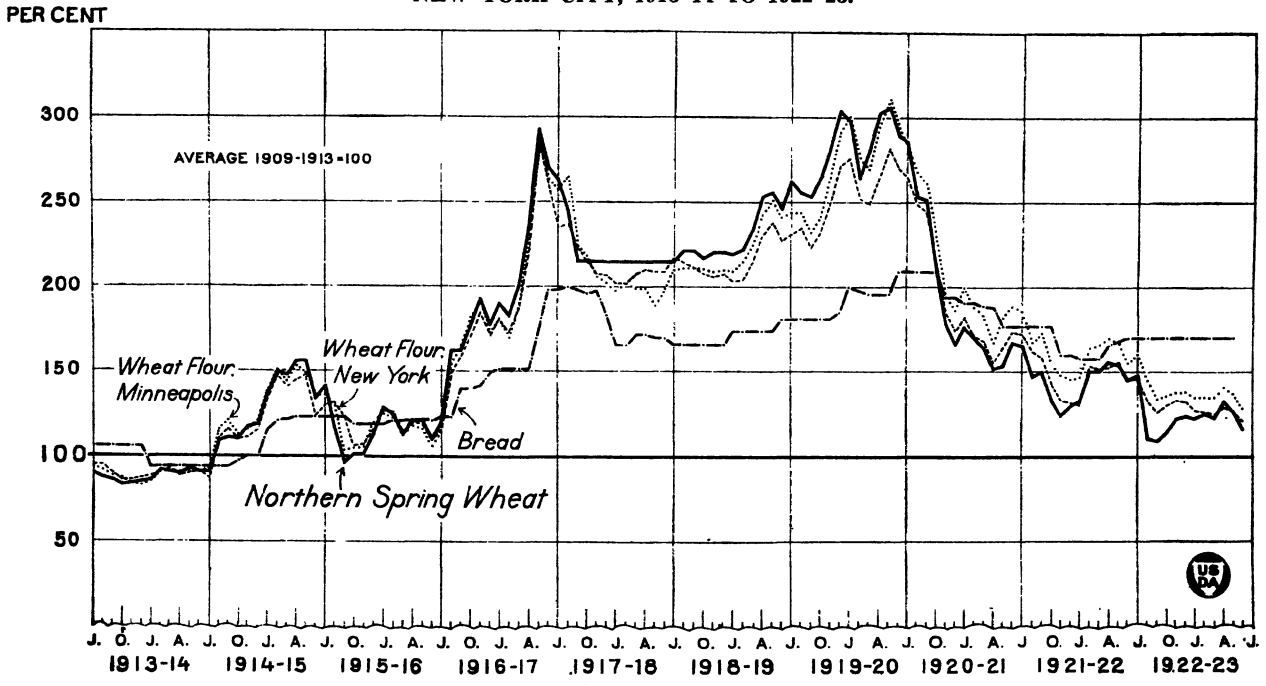


FIGURE 13.

The Decreased Consumption of Wheat.

Decrease in consumption of wheat flour in this country has contributed to the large exports of the war and post-war periods. The war appeal to save bread, aided by high prices, formed food habits which have remained with us. The pre-war custom of serving bread free with every *a la carte* order in restaurants, hotels, and dining cars was abandoned during the war period and has not been generally revived. "Free bread" is undoubtedly consumed more liberally than bread at the rate of two slices with a nickel order of bread and butter. At the rate of a cent and a half per slice, the cafeteria patron pays between 25 and 30 cents for a pound loaf of bread. In hotels, restaurants, and dining cars, where the charge for an order of bread and butter may be as high as 20 cents, the consumption of bread has been materially reduced.

The retail price of bread in cities has not fallen with the price of wheat and flour. A pound loaf of bread in Minneapolis which cost 5.3 cents in 1913–14 cost 9 cents in 1922–23, whereas a barrel of flour which cost $4.43 in 1913–14 cost $6.89 in 1922–23. Allowing 280 loaves of bread to the barrel of flour, the margin between the price of the flour and that of the bread produced from it increased from $10.40 to $18.30. Doubtless a narrowing of the margin between the prices of flour and bread would lead to more liberal use of bread and to some increase in the per capita consumption of wheat flour, with a consequent reduction in the surplus of wheat.

Freight Rates as a Factor in the Wheat Situation.

The increase in the cost of transportation from the farm to consuming centers is a very important factor in the present situation. The rates from country shipping points to primary markets are about 45 per cent above the pre-war rates. For example, the rate from Larimore, N. Dak., to Minneapolis in 1913 was 7.2 cents per bushel; the present rate is 10.5. From McPherson, Kans., to Kansas City the rate was 7.6 cents per bushel in 1913 as compared with the present rate of 11.4. Export rates in general have been increased more than 45 per cent. In 1913 the export rate from Chicago to New York amounted to 7.8 cents per bushel; to-day it is 13.5 cents, or 73 per cent above the pre-war rate. The export rate from McPherson, Kans., to Galveston was 15.6 cents in 1913; the present rate is 27 cents, or 73 per cent above the 1913 rate.

War conditions caused freight rates to be raised, reaching the high point in 1920. Unfortunately the highest rates of the period were put into effect after prices had begun to fall. It was no more burdensome to pay 19.8 cents for transporting a bushel of wheat from Chicago to New York while the price was $2.20 and above than it was to pay 7.8 cents before the war when the price was about $1 at Chicago. Since 1920 prices of wheat have fallen nearly to the pre-war level, whereas freight rates remain 45 per cent and more above pre-war rates.

Relatively high freight rates from producing regions of the United States to the seaboard are a serious handicap in competition with other countries in the markets of the world. The freight rates from points in Montana to Duluth are from 7 to 10 cents a bushel higher than the rates in Canada for the same distances to Port Arthur and

Fort William at the head of the Lakes, from which the rates to Liverpool under normal conditions are substantially the same as from Duluth.

Freight rates on wheat for like distances from points in Montana to Duluth and Canadian points to Port Arthur.

Via Canadian National Railways.			Via Great Northern Railway.			
From Canadian points.	To Port Arthur, Ontario.		From Montana points.	To Duluth, Min.		Excess, United States over Canada, per bushel.
	Distance.	Freight rate per bushel.		Distance.	Freight rate per bushel.	
SASKATCHEWAN.	*Miles.*	*Cents.*		*Miles.*	*Cents.*	*Cents.*
Maryfield	649	10.8	Snowden	650	18.0	7.2
Buchanan	754	11.4	Frazer	750	20.4	9.0
Regina	794	12.0	Vandalia	797	21.6	9.6
Briercrest	854	12.0	Wagner	856	22.5	10.5
Dalmeny	936	15.0	Havre	933	23.7	8.7
Conquest	1,002	15.0	Teton	1,004	25.2	10.2

The highest rate to the head of the Lakes from any point in western Canada, as shown in the 1922 report of the Grain Trade of Canada, is 17.4 cents per bushel from Athabasca, Alberta. From Calgary, Alberta, to Port Arthur, a distance of 1,339 miles, the rate is 15.6 cents per bushel. In the United States the rate from Teton, Mont., to Duluth, a distance of 1,004 miles, is 25.2 cents, a difference of 9.6 cents in favor of the Canadian wheat grower of Calgary.

While the foregoing comparisons are not intended to represent the rates which apply to the average distances to the head of the Lakes from wheat regions on each side of the border, the comparisons nevertheless emphasize the inequality of freight rates in so far as they affect the wheat grower in Montana. Whether Montana wheat is exported to foreign markets or shipped to the Minneapolis mills is not material, so far as its effect on the price received by the farmer is concerned. In either event the price paid to the Montana farmer is substantially the price at the primary markets at Duluth and Minneapolis, less the cost of handling and transportation from the country shipping point.

It is of interest in this connection that while freight rates in the United States are still 45 per cent and more above the 1913 level, Dominion rates from the western Provinces to Port Arthur are practically on a pre-war basis. In line with the policy of the United States, the Canadian freight rates were increased several times between 1916 and 1920. Beginning with January 1, 1921, however, reductions were made from time to time so that by July 6, 1922, rates were only from 1 to 4 cents per hundred pounds in excess of the 1913 rates. The reduction made July 6, 1922, amounted to in many cases from 9 to 11 cents per hundred pounds or a decrease of from 26 to 28 per cent. This reduction offsets in part the affect of the tariff duty imposed by the United States upon the importation of wheat. For example, at Scobey, Mont., wheat grown

both in Canada and in the United States must pay 22.5 cents per bushel freight to Duluth, while wheat from Regina, a point on a Canadian railway 90 miles farther from the head of the Lakes, pays only 12 cents to Port Arthur. Adding 3 cents for lake freight to Buffalo, the transportation charges on a bushel of wheat from Regina to Buffalo plus duty is 45 cents, whereas the transportation charges alone from Scobey amount to 25.5 cents, leaving a differential against the Canadian grower at Regina of only 19.5 cents per bushel or 10.5 cents less than the tariff.

In comparison with the central wheat-growing regions of the United States, Canada has an advantage in that the bulk of the Canadian wheat for export moves to the seaboard via the Great Lakes. This cheap water transportation for a good portion of the inland haul, together with the lower rail rates, brings many of the Canadian wheat growers nearer to Liverpool than the producers of central Kansas. For example, the combined rate from Regina to Liverpool through New York amounts to 29 cents per bushel, whereas the combined rate from McPherson, Kans., to Liverpool through New Orleans or Galveston is 35.5 cents.[6]

Argentine wheat, which must pay higher rail rates per mile, but only for a short distance, enjoys an advantage of approximately 10 to 12 cents per bushel in the combined rail and ocean rate to Liverpool.

In the war period scarcity of shipping and high ocean rates placed the United States and Canada in very advantageous positions for marketing wheat in Europe in competition with Argentina and Australia. This advantageous position was an important factor in stimulating a great expansion of the wheat production in Canada and in the United States, whereas Argentina and Australia reduced production because they could not advantageously sell the wheat. Since the war, keen competition among ocean carriers has reduced the rates so greatly that they are in most cases practically on a pre-war basis. This is encouraging a revival and expansion of production of wheat in Argentina and Australia. On the other hand, high railroad freight rates place the United States wheat growers in a position even less favorable, with respect to the European markets, than the position which they held before the war.

A reduction of freight rates practically to the pre-war level would be necessary to place the United States in the pre-war position to compete with Canada in transportation costs to European markets. Such a reduction also would again place the Kansas farmer approximately in the same position to compete with the Argentine farmer that he held before the war.

It is recognized that some railroads depend largely upon wheat for revenue. It seems evident, however, that in the long run such roads may profit by carrying wheat in a period of depression at little or no profit in order that agriculture may be maintained as a source of revenue in periods of prosperity. Low freight rates have aided in the settlement and development of a large part of the wheat growing regions. Low rates may be as necessary to maintain this development through periods of depression as they were to secure the settlement and development.

[6] These combined rates may vary from day to day on account of variations in lake and ocean rates.

It is recognized also that a reduction of freight rates to pre-war levels would not raise the price of wheat sufficiently to give the wheat grower pre-war purchasing power. A reduction, however, would contribute to an improvement in the situation and should be made without delay, to remain in effect until the prices of wheat are more nearly on a par with the prices of other products. Economically it would seem wise to reduce the burden of freight rates upon low-priced commodities such as wheat, and to make up for the loss in revenue by increasing rates upon high-priced commodities.

Canadian Competition in Wheat Production and the Tariff.

Canada in recent years has greatly expanded her production of wheat, and is now our most formidable competitor in the markets of the world. Her wheat crop this season is almost 470,000,000 bushels, as compared with an annual average production of 197,000,000 bushels in the period 1909–1913. This represents an increase of 273,000,000 bushels, or 138 per cent. The population of Canada in 1921 numbered a little less than 9,000,000. Canada's wheat production is hence greatly in excess of domestic requirements. She must, therefore, find and hold foreign markets for her wheat or materially reduce her acreage. As a competitor in the world markets, the position of Canada is measured by her exports of wheat and flour, which in the year 1922–23 amounted to 274,000,000 bushels net, as compared with a pre-war average of 94,000,000. The United States exported in 1922–23 less than 202,000,000 bushels net, as compared with 103,000,000 before the war.

The prairie Provinces of Manitoba, Saskatchewan, and Alberta account for most of the expansion in Canadian wheat production. These three Provinces contain 97 per cent of the 1923 wheat acreage and have produced about 95 per cent of the crop. The average wheat area of these Provinces before the war was about 9,000,000 acres; in 1923 it is reported at over 21,500,000.

Although rapid progress has been made during recent years in the settlement of western Canada, large bodies of virgin land suited to wheat production are still undeveloped. Various estimates place the arable land in these Provinces at figures ranging from 170,000,000 to 270,000,000 acres. At present less than 40,000,000 acres are in cultivation, of which 55 per cent is in wheat. A net work of railroads covers the southern half of the region and extensive tracts of virgin land lie within reach of transportation.

The further development of these lands hinges in no small measure upon an increase in population. Immigration to Canada, which was relatively heavy preceding the war, declined materially during the years 1916 to 1919, but has since revived considerably. During the fiscal years 1920 and 1921 the immigrant arrivals in Canada numbered over 265,000. One-third of these immigrants went to the prairie Provinces, and a large number of them no doubt engaged in farming. Shortly after the war, the Western Canada Colonization Association was formed with the purpose of promoting the settlement of large numbers of immigrants on the vacant lands of western Canada. In developing this program, that association, according to an official statement, has secured the cooperation of the Imperial Government as well as the Dominion and Provincial authorities and the transcontinental railway companies.

Comparative Advantages of Canada in Wheat Production.

The Canadian wheat farmer enjoys substantial advantages over the American producer in the matter of yields, land values, the quality of wheat he produces, and lower freight rates from points equally distant from markets.

The yield of wheat, which is a very important factor in the cost of production, is materially higher in western Canada than in many of our wheat-producing States. The average yields of spring wheat in the prairie Provinces during the ten-year period 1913–1922 varied from 15 to 16 bushels per acre. In Minnesota, North Dakota, South Dakota, and Montana for the corresponding period they ranged from 10.6 to 14.3 bushels. Winter wheat yields on harvested acreage in Nebraska, Kansas, Colorado, Oklahoma, and Texas averaged, for the same period, from 12.6 to 16.2 bushels. These figures do not reflect the losses resulting from abandoned acreage. In the Pacific Northwest yields have been somewhat higher than in Canada, but this advantage has been offset to a considerable extent by higher land values. The significance of Canada's higher yields is apparent. A recent study of wheat costs in the United States brings out the fact that the cost per bushel for farmers who had yields ranging from 19 to 25 bushels per acre was 31 per cent less than for those who had yields varying from 7 to 13 bushels.

The capital invested in land is also materially lower in Canada than in the United States. The average value of farm lands in 1922 for Canada as a whole was $40 per acre as compared with $79 for the United States. In the prairie Provinces average land values ranged from $24 to $32; in 11 of the western wheat States the range was from $46 to $110. Montana is the only important wheat State in which the average value of land is not materially higher than in the prairie Provinces. It is significant also that land values in Canada during the war were marked up to a relatively slight degree. Between 1914 and 1920 the average value of land in the United States increased $35 per acre; in Canada the average increase was only $11. In the same period lands in the prairie Provinces advanced on the average from $7 to $11 per acre; in 11 western wheat States the increase ranged from $10 per acre in Colorado to $61 in Nebraska. It is evident, therefore, that the American wheat farmer has a much heavier per acre investment in land than his Canadian competitor and a correspondingly larger interest burden.

Canadian farmers have another advantage in the superior quality of their wheat. It is high in protein and much valued by foreign millers for mixing with softer wheats. The hard spring wheat of Canada for many years has sold at small premiums over both American Hard Spring and Hard Winter wheats in Liverpool, although at times the price has fallen slightly below. During the past two years the premiums paid for No. 1 Northern Manitoba over American No. 2 Hard Winter wheat in Liverpool when prices on both grades were reported have averaged 9 cents. Sales of American Hard Spring wheat in Liverpool have been limited and quotations are scattered. When quoted during 1923 the premium on No. 1 Northern Manitoba has been about 5 cents over No. 2 Dark Northern Spring wheat in Liverpool. The excellent quality of the Canadian wheat is attested also by the fact that American millers purchase

and import it in considerable quantities even though subject to a duty of 30 cents. Canada's more advantageous position in the production of hard spring wheat is apparent. The present Canadian spring wheat crop is placed at 450,000,000 bushels. This volume of superior hard spring wheat competes with the spring wheat crop of Minnesota, North Dakota, South Dakota, and Montana, which is estimated this season at 143,000,000 bushels.

As indicated in greater detail elsewhere, more favorable freight rates give the Canadian wheat farmer substantial advantages over a great many American producers. Most of the wheat exported from Canada moves from the head of Lake Superior to Montreal and the Atlantic seaboard of the United States via the Great Lakes. This affords cheap water rates for a good portion of the haul to the seaboard. Canadian wheat also enjoys the advantages of a relatively lower freight rate from the western Provinces to the head of the Lakes, compared with the rates to Duluth from corresponding distances in the Northwest.

While satisfactory comparisons between the cost of producing wheat in Canada and the United States can not be made on the basis of available studies, it is quite apparent that the Canadian farmer has advantages which enable him to produce wheat at materially lower costs per bushel than the American farmer.

The Effect of the Tariff on Wheat Prices.

The tariff has been effective in protecting the spring wheat farmer. In Liverpool, Canadian spring wheat ordinarily sells at a small premium over American spring wheat. On the other hand, a comparison of prices for comparable grades of spring wheat in American and Canadian markets which have practically the same transportation rates to Liverpool shows a margin in favor of American prices which can only be explained as an influence of the tariff.

The Minneapolis price of No. 1 Northern Spring in the period from 1909 to 1913, when a 25-cent tariff was in force, ranged in general from 5 to 10 cents above Winnipeg No. 1 Northern. Under a reduced tariff of 10 cents per bushel, prices at the two markets from 1913 to 1916 were practically on a level. From 1916 to 1920, controlled prices and other conditions incident to the war destroyed normal price relationships.

With the release of Government control, Winnipeg prices, in the latter part of 1920, when no tariff was in effect, rose to a level with, and at times somewhat above, Minneapolis. After the emergency tariff went into effect, in May, 1921, however, Winnipeg fell to around 25 to 30 cents below Minneapolis, remaining near that level for the balance of the year. The difference narrowed early in 1922, and the Canadian market since that time has fluctuated from 6 cents above to 22 cents below Minneapolis.

Winter wheat prices appear to be less affected by the tariff. American winter wheat at Kansas City is usually above Canadian spring wheat from October to May or June and below during the summer months, when the bulk of the American crop is moving to market. Under the 25-cent tariff existing before the war the average monthly margins in the two periods practically offset one another in amount, but under the 10-cent duty in force from 1913–1917 Win-

nipeg prices averaged from 5 to 7 cents above Kansas City. Under our post-war tariffs Winnipeg prices from June, 1921, to September, 1923, averaged 5 cents above Kansas City, but this average in favor of Canadian wheat has been due to the high margins that obtained during the summers of 1921 and 1922. Kansas City Hard Winter wheat prices have averaged 2 cents above Winnipeg during the past twelve months, and in the month of October averaged 14 cents above Winnipeg.

MARGINS OF AMERICAN OVER CANADIAN HARD SPRING WHEAT PRICES, SEPTEMBER, 1920–SEPTEMBER, 1923.

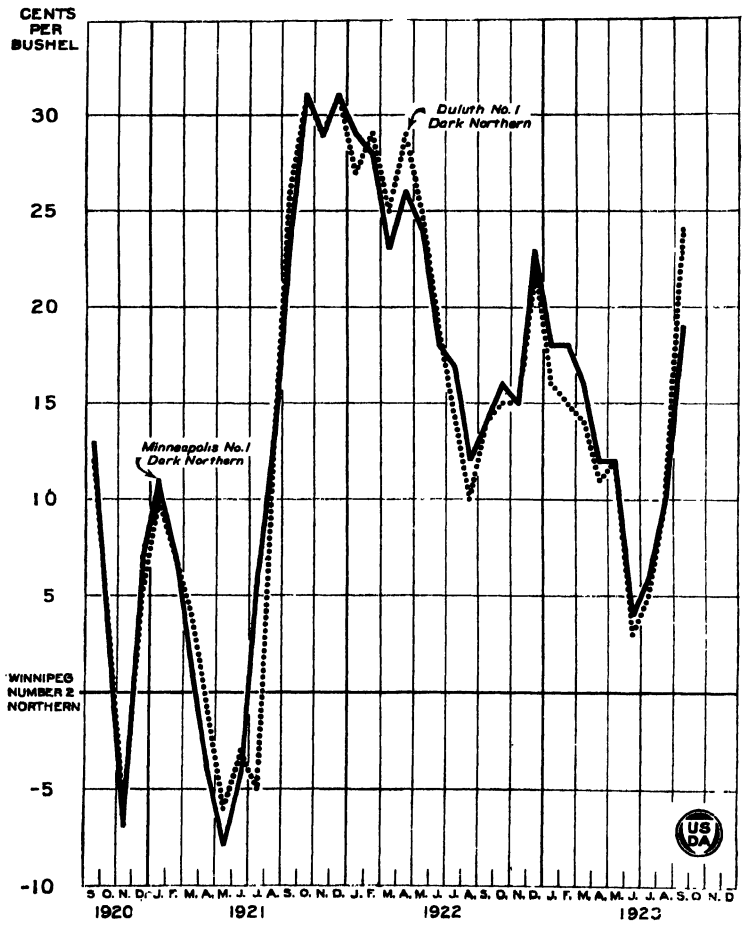


FIGURE 14.

The beneficial influence of the tariff is also illustrated by comparing prices of wheat in Liverpool with prices in producing countries plus cost of transportation to Liverpool. Prices of Canadian wheat in Liverpool averaged for the year 1922, 10 cents, and for nine months of 1923, 6¾ cents above Winnipeg prices plus freight on the basis of an all-rail rate to seaboard. During the month of October,

1922, they averaged as high as 30 cents per bushel above Winnipeg plus freight. Liverpool prices of American hard winter wheat, on the other hand, averaged during 1922 only 2 cents more than Kansas City plus freight, and during the early months of the year

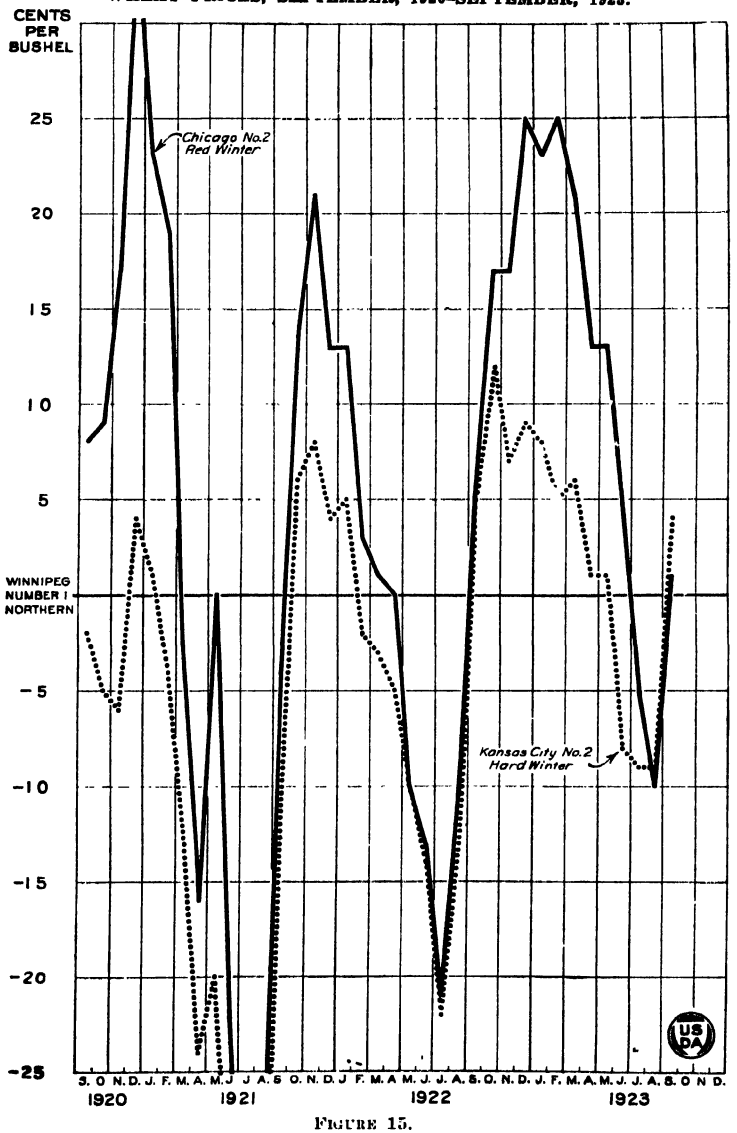


FIGURE 15.

were considerably below. In January, 1923, Liverpool again dropped below Kansas City plus freight, and has averaged from 1 cent to 2 cents under during the first nine months of the year. American hard spring wheat, on the other hand, as shown by the limited data

obtainable, has sold in Liverpool during the first half of 1923 at prices ranging from 3 to 15 cents below Minneapolis plus freight (all-rail). The average for the first four months, in fact, was about 13 cents below. Even No. 1 Manitoba, which usually sells above No. 1 Northern in Liverpool, was below No. 1 Northern Hard Spring at Minneapolis plus freight. These figures show that, on a Liverpool basis, Hard Red Spring wheat prices have been high throughout 1923, and indicate roughly the extent to which the tariff has raised prices of this wheat above world levels. It also appears that prices of hard winter wheat in the Kansas City market at times are favorably influenced by the tariff.

The present tariff has not prevented the importation of Canadian wheat for domestic consumption. Our total imports of Canadian wheat from May, 1921, when the emergency tariff went into effect, to June 30, 1923, amounted to 32,567,664 bushels, of which 22,642,059 bushels were imported in 1922. Forty-seven per cent of this was milled in bond and exported as flour. Drawback was paid on only 4,638 bushels. The balance was consumed in the United States.

The transit movement in bond of Canadian wheat through the United States for export from our seaports is not affected by the tariff and should not affect prices in this country. This movement is, however, much larger than our actual import trade. It mounted up during the war years, reaching as high as 127,000,000 bushels in 1916. In 1918, 1919, and 1920 it fell to 25,000,000 and below, but has since revived and is now approaching the hundred million mark.

The margin between prices of Canadian and American spring wheat has widened materially in the past several weeks. The price of Minneapolis No. 1 Northern Spring averaged 17 cents over Winnipeg No. 1 Northern for the month of September. This spread has increased to 22 cents for the month of October. On November 1 the margin of Minneapolis No. 1 Dark Northern over Winnipeg No. 2 Northern was 30 cents. This widening of the spread between American and Canadian prices is resulting in larger importations of Canadian wheat duty paid. In the face of larger world supplies the price of Canadian wheat is being depressed to the point where Canadian wheat can be expected to flow over the tariff wall in large volume and directly compete with American hard spring wheat unless the duty is materially increased.

The Financial Situation of Farmers in the Wheat Regions.

The indebtedness of farmers in various parts of the United States, especially in the West, has grown to burdensome proportions. There are a number of causes which account for this situation. Land values in the Middle West rose sharply during the war and some land was purchased by farmers at inflated prices. The number of farmers, however, who bought land during these years is not as large as usually thought. Surveys that have been made indicate that from 10 to 15 per cent of the farms in the United States changed hands during the years 1916 to 1920. It should also be noted that a great many farmers who purchased at exhorbitant levels have already lost their land. Still other farmers who did not buy land marked up the value of their land and other property, placed too much reliance upon

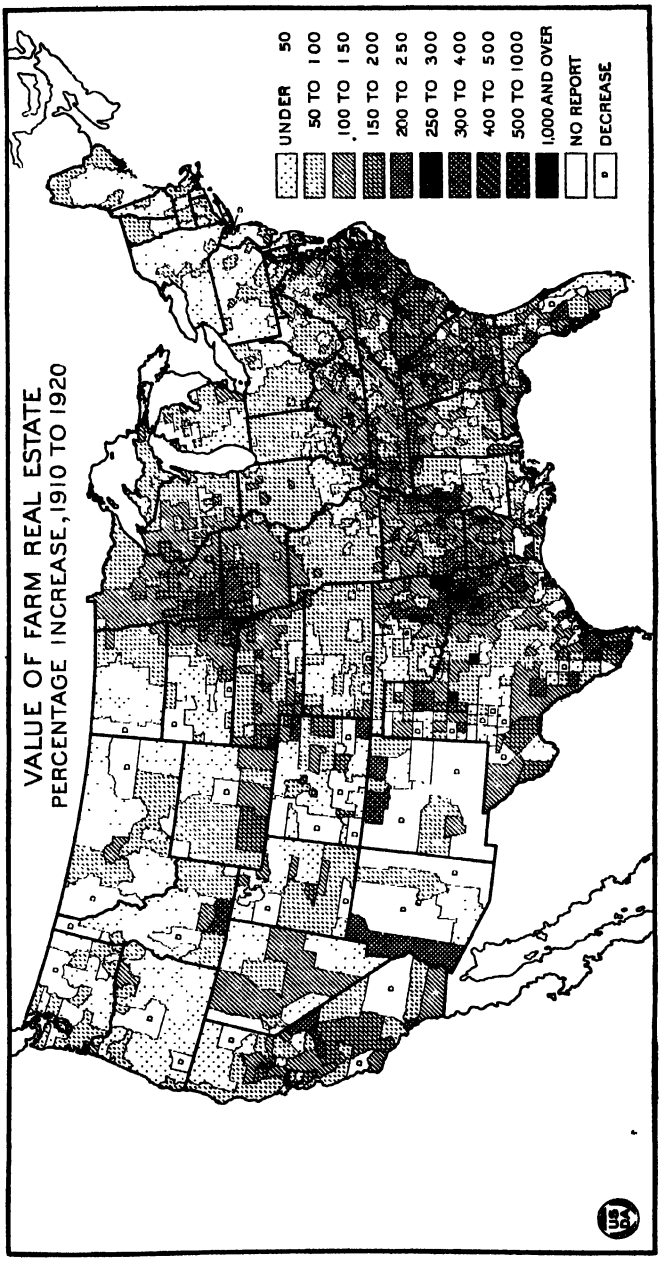

VALUE OF FARM REAL ESTATE
PERCENTAGE INCREASE, 1910 TO 1920
UNDER 50
50 TO 100
100 TO 150
150 TO 200
200 TO 250
250 TO 300
300 TO 400
400 TO 500
500 TO 1000
1,000 AND OVER
NO REPORT
DECREASE

FIGURE 16.

this new and fictitious wealth and incurred liabilities in excess of their normal earning capacity.

Frequently the scale of farm operations and expenditures was materially expanded to meet the demand for increased production as well as to reap the benefit of war prices. In many parts of the dry-land wheat regions an extradordinary series of crop failures was experienced during the years 1917 to 1921. Farm operations in these years were conducted at maximum costs, and instead of profiting by high prices farmers piled up additional debts. The financial situation in these dry-land wheat regions became, in fact, so serious that Federal funds to the amount of $8,500,000 were provided in 1918, 1921, and 1922 for seed and feed loans to enable farmers to continue their operations.

The degree to which farm debt has been increased is shown to some extent by the census. The average mortgage debt per owner-operated farm, which in 1910 ranged from $1,960 to $2,364 for the

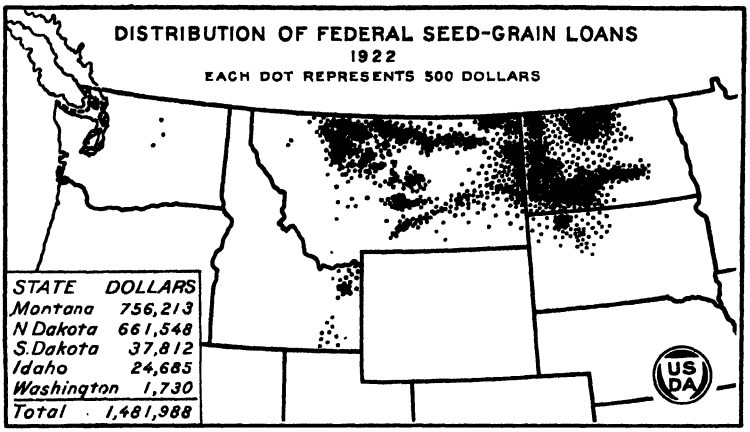


FIGURE 17.

principal wheat regions, about doubled by 1920. These census figures do not include the mortgage debt on farms operated by managers and tenants. In addition to the farm mortgage encumbrance, a substantial part of farm indebtedness is represented by personal bank, and merchant credit, for which separate data are not available.

The evidence does not indicate that the total volume of farm indebtedness is in itself of alarming dimensions. Its significance lies more especially in its distribution. In some parts of the more specialized wheat regions the burden of farm debt is much heavier than in others. Within every community there are farmers who have very little or no debt, while others are very deeply involved. The situation on the average appears to be most serious in the semiarid regions where wheat farming is conducted as a specialized industry and under conditions of high crop risk. On the other hand, many farmers in the better wheat regions purchased land at inflated prices or incurred other heavy liabilities during the war and are now carrying burdensome debts.

When price deflation came in 1920, farmers who had accumulated large debts were seriously embarrassed. While the majority of them

have been successful in tiding over their financial difficulties, a substantial number have not. This situation is brought out in a special inquiry made by the Department of Agriculture in the spring of 1923. Reports were secured from 15 States covering the period January, 1920, to March, 1923. Out of over 68,000 owner farmers included in this survey 4 per cent lost their farms through foreclosure or bankruptcy, 4.5 per cent lost their farms without legal proceedings, and a little over 15 per cent had been spared such loss up to March, 1923, only because of the leniency of their creditors. Out of almost 26,000 tenant farmers, 7.2 per cent lost property through foreclosure or bankruptcy, 7.8 per cent lost property without legal proceedings, and 21.3 per cent retained their property merely as a result of the leniency of creditors.

According to this survey, the losses of farms and farm property were relatively most numerous in the Great Plains region. Applying the results obtained from these reports to the 1920 census figures for owners and tenants, it was estimated that the percentage of farmers who since 1920 had lost farms or other property ranged from 8.9 per cent of all farmers in Kansas to 28.3 per cent in Montana.

The seriousness of the situation is further reflected in the records of the bankruptcy courts. While the total number of bankruptcy cases among farmers is not large, it must be remembered that farmers as a rule do not resort to the bankruptcy courts when forced to give up property to creditors. The significance of the record lies, therefore, in the increase and distribution of such cases rather than in their absolute number. The records of the Department of Justice show that during the three pre-war years 1912–1914 an average of 5.5 per cent of all bankruptcy cases were farmers, while in 1922 the percentage was 14.4. The resort by farmers to bankruptcy courts was especially pronounced in the more specialized wheat regions. In the western winter wheat region farmer bankruptcy cases in the pre-war years averaged 8 per cent of all cases; in 1922 this percentage had increased to 25. In the spring wheat region the percentage increased from almost 22 per cent of all cases in the pre-war years to 48.9 per cent in 1922. The increase in bankruptcy among farmers in the Pacific Northwest States is also marked, particularly in Idaho, where almost 47 per cent of all cases put through the bankruptcy courts in 1922 involved farmers. The percentage of bankruptcies among farmers in 1922 was especially high in Iowa, Kansas, Nebraska, Colorado, North Dakota, South Dakota, Montana, and Idaho, ranging from 32.6 per cent of all cases in Nebraska to 78.5 per cent in North Dakota. Preliminary reports indicate that bankruptcies of farmers for the fiscal year ending June 30, 1923, will materially exceed those of 1922.

Further illustration of the financial distress of farmers in various parts of the West is found in the accumulation of delinquent farm taxes. Tax payments in some sections are in arrears from one to four years. In some of the wheat-growing areas of Kansas, for example, delinquent taxes since 1917 have increased in volume several hundred per cent.

The movement of population from country to city is in this connection very significant. In 1922 there was a net shift of 1,120,000 persons from farms to city, or about 3.6 per cent of the rural agri-

cultural population at the beginning of the year. This cityward movement is a result of attractive urban wages, on the one hand, and inadequate returns in agriculture, on the other. From a survey of vacant farmhouses it appears that the percentage of all inhabitable farmhouses not occupied in the United States increased from 4.7 per cent in 1920 to 7.3 per cent in 1922. This abandonment of farmhouses was high in various sections of the country, but especially so in several States of the Great Plains region and the Pacific Northwest.

Cost of Producing Wheat.

The cost of the principal factors in the production of wheat advanced during the war less rapidly than the price of wheat, and a margin of profit was realized by farmers who obtained fairly good yields.

With the break in general prices in 1920 wheat declined much more rapidly than the cost of production. While the price of wheat is now slightly above the pre-war level, the factors of cost are relatively much higher. This difference between wheat prices and production costs has resulted during the last few years in heavy losses to wheat farmers generally, and has borne down with special weight upon those who accumulated large debts during the war.

Practically all costs which enter into the production of wheat are considerably higher than before the war. Average monthly farm wages for the United States on July 1, 1923, were 59 per cent above the 1913 level. Day wages at harvest time had increased even more. In Kansas the day wage in harvest was 82 per cent above 1913. This fact is of special importance in commercial wheat-producing regions where the bulk of the harvest labor is supplied by day hands. Interest charges which farmers must pay have increased with the accumulation of debts. Wholesale prices of the more common farm implements were this season from 45 to 59 per cent higher than in 1913, and retail prices were considerably higher. Threshing rates in various sections of the wheat territory ranged this fall from 7 to 15 cents per bushel, or 50 per cent more than in 1913.

The burden of taxes in many regions has become excessive. Taxes on farm lands in Kansas increased 171 per cent between 1913 and 1921, in South Dakota, 129, and in the eastern 20 counties of Washington, 237 per cent. With the exception of South Dakota, taxes in these States have continued upward since the war. It should be observed that a substantial part of public funds is expended for local improvement purposes, such as roads, and that from 80 to 90 per cent of such taxes in Kansas and South Dakota, for example, are levied by local government units. The remedy for high taxes in some regions, therefore, rests in large measure with farmers themselves. No doubt the ready market for tax-exempt securities also accounts in part for some of the ill-advised expenditures in local improvements.

Cost of Wheat Production in Representative Winter and Spring Wheat Regions, 1913–1923.

In 1919 the Department of Agriculture made extensive studies of the cost of producing wheat in representative winter and spring wheat areas of the country. From basic material gathered in this

study it has been possible to show the approximate fluctuations in wheat costs for the period 1913 to 1923.

In the winter wheat States of Kansas, Nebraska, and Missouri, the relation of the price of wheat to the cost of production, excluding land rent, was favorable to the producer until 1921. During the last three years, however, wheat farmers in these States have had no return for the capital invested in wheat land and have lacked from $0.70 to $2.60 per acre of receiving enough to pay the other costs of production.

In the spring wheat States of North and South Dakota and Minnesota the price of wheat has been sufficient to cover the net cost, excluding land rent, for seven of the past eleven years, although during some of these years very little was left for use of land after paying other costs. Since 1919 the price has been insufficient to pay for the use of land and has lacked from $0.10 to $3.42 per acre of covering other production costs.

More favorable yields in the winter wheat regions have been the main factor in making winter wheat production less expensive

FARM PRICE OF WHEAT AND THE COST OF IMPORTANT FACTORS IN WHEAT PRODUCTION, 1913–1923.

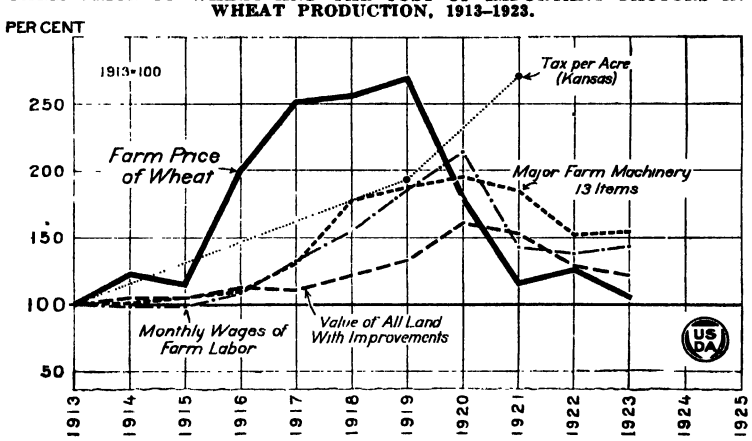


FIGURE 18. Data for 1923 as of September 1.

than that of spring wheat. For the eleven-year period 1913–1923 in the spring wheat region the computed average net cost of wheat production, exclusive of land rent, varied from $0.59 to $2.19 per bushel, whereas in the winter wheat region covered by the study the variation was from $0.52 to $1.44 per bushel.

Relative Costs of Wheat Production in Subhumid and Semiarid Regions.

A substantial part of both winter and spring wheat is produced in the semiarid regions of the West where, owing to low and uncertain precipitation, winter killing, hail, and other causes, the risk is high.

Ford County, Kans., is representative of semiarid conditions in the winter wheat region. In this county, in ten out of the last twelve years, there has been an abandoned acreage ranging from 6

to 92 per cent. The abandonment has been extremely high for individual years, as in 1917, 1918, and 1923 when it was 92, 90, and 80 per cent, respectively. During the twelve-year period 1912–1923 the abandonment of seeded acreage has been 37.1 per cent. The yield of wheat in this county during the last twelve years has averaged 7.2 bushels per seeded acre. It is true that comparatively high yields are not infrequently obtained on these semiarid lands, and in such years the profits in wheat growing are good. On the other hand, successive years of crop failure often occur and unless a reserve of capital has been provided the farmer finds it a difficult problem to tide himself over such periods.

In McPherson County, situated in the subhumid wheat region of Kansas, the abandoned wheat acreage since 1912 has averaged 9.4 per cent. The acreage of wheat abandoned in Ford County has been nearly six times that abandoned in McPherson. The average yield of wheat in McPherson has been 13.1 bushels, or almost twice as great as that for the semiarid county. Under such conditions production costs per bushel in Ford County have been very much higher than in McPherson. The physical requirements, such as seed and man and horse labor prior to harvest, remain fairly constant, and in high-risk areas the larger amount of abandoned acreage carries with it a heavy expenditure for these items. Since 1912 man labor prior to harvest has varied from 0.15 to 17.7 hours per bushel. In McPherson County this variation has been from 0.20 to 1.01 hours per bushel. For seven of the twelve years more man labor was required to produce a bushel of wheat in Ford County than in McPherson; in four of the years the man labor per bushel was from four to sixty times greater. Similar ranges existed with respect to the amount of horse labor and seed wheat per bushel.

In a comparison of the relative profitableness of wheat production in these subhumid and semiarid counties, the returns per farm should be considered. By the use of large machinery and extensive methods of cultivation the wheat farmer in the semiarid section operates on the average a considerably larger wheat acreage than the farmer in the subhumid region. According to a study made in 1919 the seeded wheat acreage per farm was 318 acres for Ford County as compared with 143 acres for McPherson. On the basis of these acreages the total wheat production per farm in Ford County has in some years been considerably larger than in McPherson. The average production per farm during a period of ten years, however, has been nearly the same for both counties, and in view of the higher average production costs per bushel in the semiarid county it appears that with present methods the dry-land wheat farmer, at least in some sections, competes at a disadvantage with the wheat farmer in the more humid regions of the country.

Cost of Producing Wheat in 1922.

In 1922 the average cost of producing wheat as reported on 2,417 farms in the United States was $1.23 per bushel. The cost of production showed considerable variation as between geographical divisions. The net cost, including land rent, varied from an average of $0.98 per bushel in the spring wheat States of Minnesota, North and South Dakota, and Montana to an average of $1.38 for the States of New York, Pennsylvania, Maryland, Virginia, and West Virginia.

In all of these regions many farmers produced wheat at a loss. It should be remembered, however, that this does not represent an actual cash loss, since a substantial part of the total cost of production does not involve a cash outlay. In cost accounting, costs include charges for the labor of the farmer and his family and for the use of land, and if the price received for wheat is sufficient to cover these costs the farmer receives going wages for his time and interest on capital invested.

ACREAGE OF WHEAT HARVESTED, ACREAGE ABANDONED, AND YIELD PER PLANTED ACRE IN SEMIARID AND SUBHUMID COUNTIES OF KANSAS, 1912–1923.

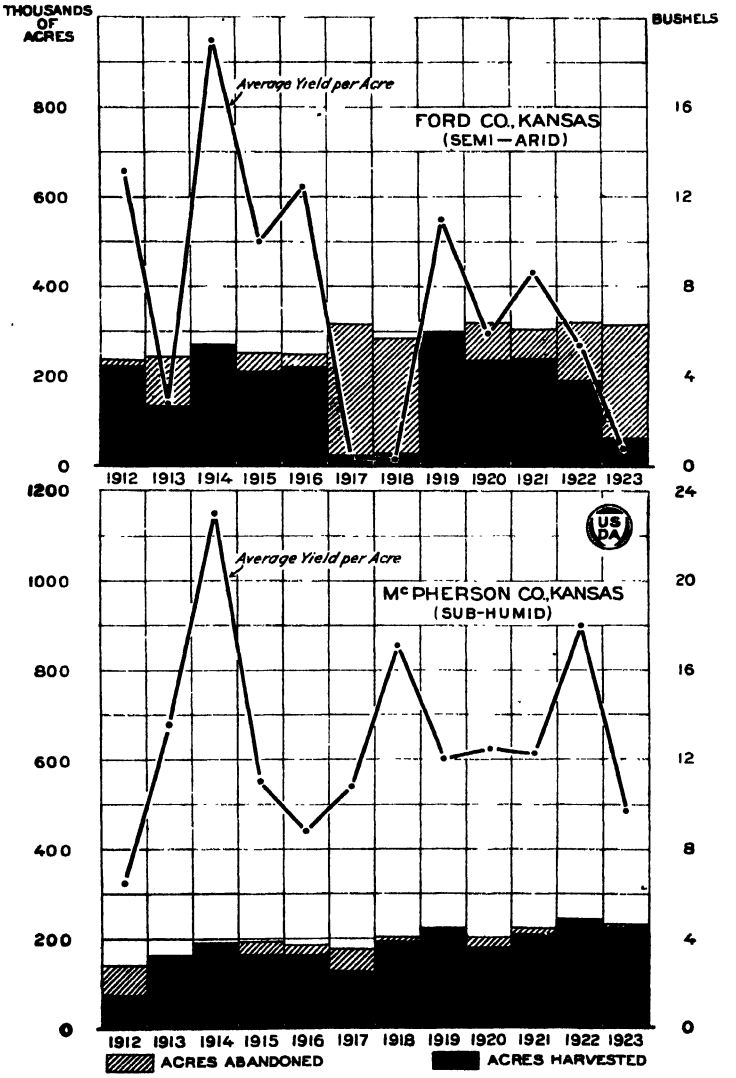


FIGURE 19.

The cost of producing wheat varies widely between individuals as between regions. The average cost for the total production, as shown by some investigations, covers the cost of a little more than half of the crop, and a wheat price which only equals this cost will not permanently maintain the industry. To place wheat growing on a stable basis, the price for wheat must be sufficiently high to yield satisfactory returns on the bulk of the production. This price wheat farmers have not received during the last several years.

Costs and Other Factors in the Marketing of Wheat.

The spread between the price paid to the producer of wheat and the price paid by the consumer of bread has widened very materially since 1913.

The retail price of a 16-ounce loaf of bread in Washington, D. C., has increased from 5.45 cents in September, 1913, to 9 cents in September, 1923. This advance in bread prices has not benefited the farmer. The portion received in 1913 by the wheat grower for the wheat equivalent of flour used in baking the Washington loaf was about one-fifth of the retail price of bread; in 1923 it amounts to less than one-sixth. While the wheat grower's portion of the retail price of bread has increased during this period less than one-third of a cent, the margins above have increased a total of 3¼ cents.

The margins between the mill and the retailer are, therefore, of most interest to the consumer, but the margins between the farm and the terminal market are of special concern to the farmer. According to the best available evidence the margins for the services of local and terminal handling agencies as well as those of transportation agencies bear down heavily upon the wheat grower.

The Department of Agriculture has made an analysis of the operations during 1921–22 of 40 country elevators in north central Kansas. The gross margin of these elevators ranged as high as 9.6 cents per bushel, and averaged a little better than 4 per cent of the terminal selling price. The transportation costs to Kansas City averaged about 12½ cents per bushel or a trifle over 10 per cent of the terminal price.

The operating cost of these 40 Kansas elevators varied from 1.9 cents to 7.4 cents per bushel. This wide variation in operating expense is largely due to the variation in the volume of grain handled by the several elevators. The tendency for costs to decline with increase in volume of grain handled is quite marked.

The information at hand suggests the need of reducing both local and terminal margins in the marketing of wheat. A reduction of the country elevator margin can be effected in considerable measure by increasing the volume of grain handled by each elevator. This would necessitate a reduction in the number of elevators at points where there are two or more competing elevators. It should not be overlooked, however, that in the case of privately operated elevators the increased volume thus obtained might to some extent at least be offset by lower prices resulting from decreased competition.

Such investigations as have been made indicate that the cooperative farmers' elevator efficiently operated is an effective factor in reducing local buying margins. It is not so important to have competition in the case of patronage dividend elevators, since all profits over and

above operating expenses are ultimately returned to the patrons. Since 1904 the organization of cooperative elevators has proceeded rapidly. Between 1914 and 1921 the number of such organizations in 12 North Central States increased from 1,942 to 4,442.

During the last two years an effort has been made to reduce the margins at terminal markets and bring about a better seasonal marketing of wheat through the operations of grain marketing associations. Fourteen State associations of this kind have been formed,

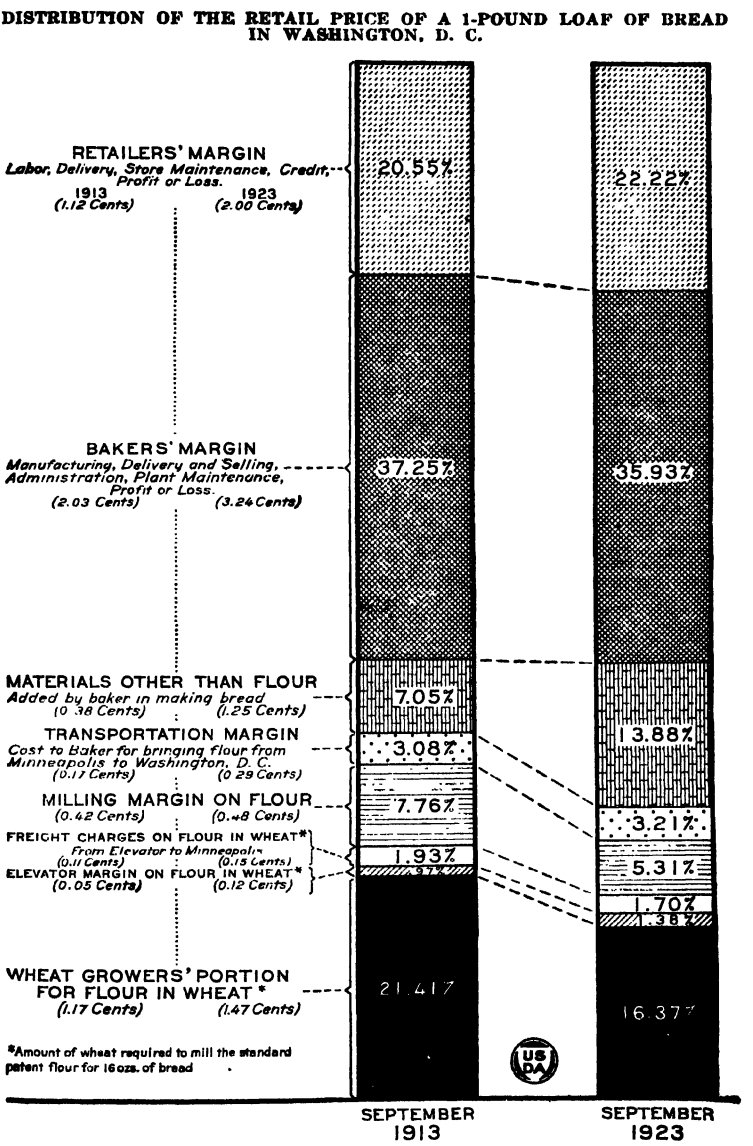


FIGURE 20.—Based on bread formulas for the years 1913 and 1923.

and last August nine of them were affiliated in a national sales agency. Owing to their recent organization it is not possible to measure the influence of these associations on marketing margins and prices received by farmers.

Quality of Wheat in Relation to Price.

The price which wheat will command is to a considerable extent influenced by its quality and grade. It is, of course, a well known fact that the lower grades, especially of certain classes of wheat, sell normally at a material discount under the better grades. Quality and grade, moreover, are determined to a considerable extent by weather conditions over which the farmer has no control. Yet, on the other hand, much may be done by the farmer himself to improve the grade of his wheat and better the price he receives.

In the northwest spring wheat region heavy and unnecessary losses are sustained by wheat farmers in growing and putting on the market wheat containing a large amount of foreign material which can be removed. According to the records of the Minnesota State Grain Inspection Department dockage has gradually increased from 1.9 per cent of all wheat shipped to Minnesota markets in 1902 to 4.2 per cent in 1922. During the 21 years covered in this period it is estimated that almost 110,000,000 bushels of dockage were shipped to these markets. If shipped separately to market, this dockage, it is estimated, would have required over 84,000 freight cars for its transporation. Farmers of the Northwest shipped to Minnesota markets in the crop year of 1922 alone over 7,500,000 bushels of dockage, using for this purpose about 5,800 cars. Had this equipment been available for the shipment of clean wheat, the car shortage in the Northwest in the crop movement season of 1922–23 would no doubt have been less serious. It should also be observed that market receipts do not fully measure the amount of dockage since a part of it is removed at the farm and at local elevators.

Spring wheat farmers are taking heavy losses on their dockage in more ways than one. Weeds are reducing wheat yields and some lands have become so foul that they are no longer profitable for wheat production. Harvesting and threshing weeds with the wheat adds materially to the cost of wheat production. At a threshing rate of 7 cents per bushel, it is estimated that farmers in Minnesota, North Dakota, South Dakota, and Montana paid over $675,000 to thresh the dockage in their 1922 wheat crop.

A still more important item of loss is the cost of freighting dockage to market. The average dockage assessed per car in 1922 by the Minnesota State Grain Inspection Department was 54 bushels. The freight charges on this dockage between Larimore, N. Dak., and Minneapolis amounted to $5.67 per car. If, for illustration, the Larimore-Minneapolis freight rate be taken as an average rate on wheat shipped to Minnesota markets and be applied to the total dockage assessed in 1922 it appears that the enormous sum of almost $800,000 was paid to the transportation companies to haul the dockage of that season to these markets. An effective way, in short, to reduce transportation costs is to remove the foreign material before shipment is made.

Losses resulting from foreign material in wheat may be materially reduced by better crop rotations and cultural methods as well as by cleaning both seed and market wheat. The one-crop system in the Northwest has resulted in weed-infested lands, dirty wheat, and reduced yields. The practice of sowing seed wheat containing a high percentage of weed seed has been altogether too common. A survey made in Minnesota and the Dakotas in 1921 disclosed the fact that 96 per cent of the farms visited were drilling with the wheat from 1,000 to 500,000 foreign seeds per acre. The employment of cleaning devices which have been perfected for farm, threshing machine, and elvator will materially reduce this financial leakage in the farm business.

Throughout the Pacific Northwest wheat regions smut is an important factor in reducing the quality of wheat; in the Eastern States garlic causes material damage. Losses from these sources may be materially reduced by cleaning the wheat both for seed and for market. In the Southwest improper farm storage of wheat is responsible for much of the loss in quality. Where the combine-harvester is used, wheat containing too much moisture is often stored under improper conditions with resulting deterioration. This loss may be prevented by proper ventilation of bins.

The importance of producing and putting on the market the best possible grade of wheat can not be overemphasized. In foreign markets our lower grades of wheat meet in competition the best wheats of other lands and sell at a discount. On the other hand, the demand in our domestic markets is for the wheats which have the highest milling value. The poorer grades usually sell, therefore, at substantial discounts, particularly when the percentage of such grades is relatively large.

Terminal prices reflect quite accurately the variations in the quality of wheat; local prices frequently do not. Farmers must know what factors determine the grade of their wheat in order to bargain for the best possible price. In recent years wheats of high gluten content and quality have commanded special premiums. On the Kansas City market car lots of hard winter wheat, grading No. 2, 3, or 4, but of high gluten content or quality, often sell above No. 1 for the same day. Even car lots grading No. 5 occasionally bring the highest price for the subclass. For a recent day on that market when No. 1 Hard Winter was quoted at $1.18, the highest quotation for No. 4 was $1.16 and for No. 5 $1.19. The producer as a rule does not know the gluten content of his wheat, and may, hence, be at considerable disadvantage in making his sale to the local buyer. Special efforts should be made by producers to acquaint themselves better with the market value of their wheat.

Feeding Low-Priced Wheat to Livestock.

At prevailing prices some wheat can be profitably substituted for corn in the feeding of livestock in many sections of the country. The relative prices at which wheat economically may displace corn in feeding is shown in the following table:

Corn prices per bushel and equivalent wheat prices based on their relative feeding values.[1]

[Experimental data, Bureau of Animal Industry.]

Corn.	Wheat.			Corn.	Wheat.		
	Poultry and sheep.	Hogs.	Beef cattle.		Poultry and sheep.	Hogs.	Beef cattle.
Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
50	54	56	62	80	86	90	99
55	59	62	68	85	91	96	105
60	64	67	74	90	96	101	111
65	70	73	80	95	102	107	117
70	75	79	86	100	107	112	123
75	80	84	92				

[1] The feeding value of a pound of wheat in pounds of corn is 1 for poultry and sheep, 1.05 for hogs, and 1.15 for beef cattle.

According to these ratios, when corn is 80 cents a bushel on the farm, for example, 86-cent wheat can be fed profitably to all animals, including poultry; 90-cent wheat can be fed to cattle and hogs but not to sheep and poultry; while 99-cent wheat is profitable for beef cattle only. These ratios do not take into account the cost of grinding the wheat, a necessary measure in feeding it.

The corn situation is at present very unusual. The visible supply of corn in the United States on November 3 was 809,000 bushels compared with 8,806,000 last year and 18,935,000 in 1921. The November 1 visible supply averaged 3,763,000 bushels in the period 1914–1920 and 3,352,000 during the pre-war years 1909–1913. At no time since 1900 has the visible supply of corn for November been so low as it is at present. This situation has placed the prices of old corn this fall on very nearly the same level with wheat prices. For the month of October the spread between the average farm price of No. 2 corn and No. 4 wheat at representative shipping points in Kansas, Nebraska, Missouri, Iowa, and Illinois ranged from 0 to 8 cents and between No. 2 corn and No. 2 wheat from 3 to 12 cents. At these prices No. 4 and lower grades of wheat can be profitably substituted for corn in the feeding of hogs and cattle and even No. 2 wheat can be fed to beef cattle with profit. As noted above, however, wheat should be ground or crushed before feeding, and should also be supplemented with other feeds.

Wheat Production and Agricultural Readjustments in the Principal Wheat Regions.

Under the stimulus of war prices and in response to the demand for large food supplies, the production of wheat was increased enormously during the years of the war. The initial rise in price following the declaration of war in 1914 encouraged the expansion of our wheat area. This large acreage, together with a favorable season, caused the wheat crop of 1915 to be the largest we ever harvested. Other countries also secured large crops that season, and as a result the price of wheat dropped to practically the pre-war level and remained low through the crop year 1915–16. A marked decline in wheat plantings followed, and with the heavy abandonment in 1917

FARM PRICE OF WHEAT, RYE, FLAX, POTATOES, BUTTER, AND EGGS, 1914–1923.

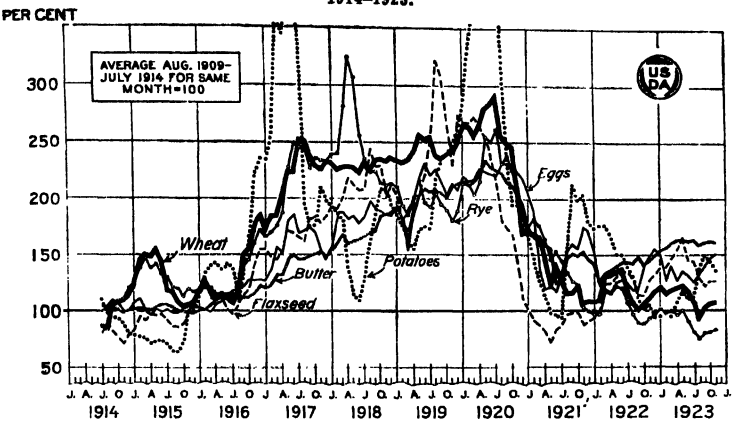


FIGURE 21.

the acreage harvested that year fell to a point slightly below the pre-war average.

With the bottling up of the Russian surplus the Allies had to depend upon overseas countries, especially North America for their wheat. The price of wheat advanced sharply in the fall of 1916 and continued to rise through the forepart of 1917. After the United States entered the war, measures were taken to regulate the price of wheat, and minimum prices were fixed for the 1917, 1918, and 1919 crops. Under continuous appeals for production of food, the production of wheat rose from an average of 690,000,000 bushels in the period 1909–1913 to 968,000,000 in 1919, an increase of 40 per cent, and the wheat area expanded from an average of 47,000,000 acres to 75,000,000 in 1919.

In order to provide land for wheat, rye, oats, tame hay, and some other crops, of which there was an increase, the corn acreage was

FARM PRICES OF WHEAT, CORN, OATS, BARLEY, CATTLE, SHEEP, AND HOGS, 1914–1923.

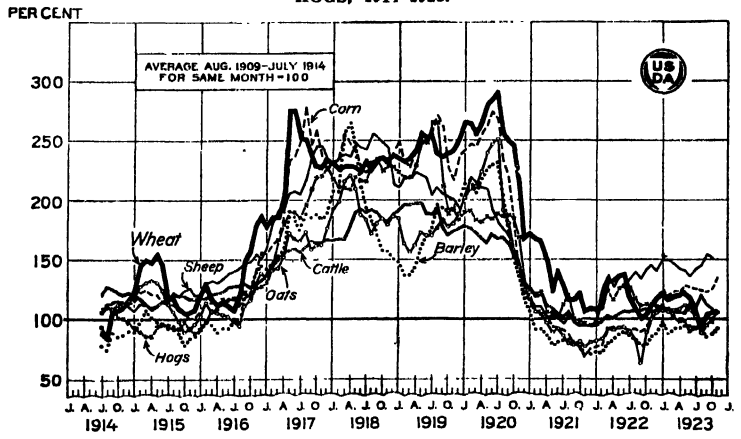
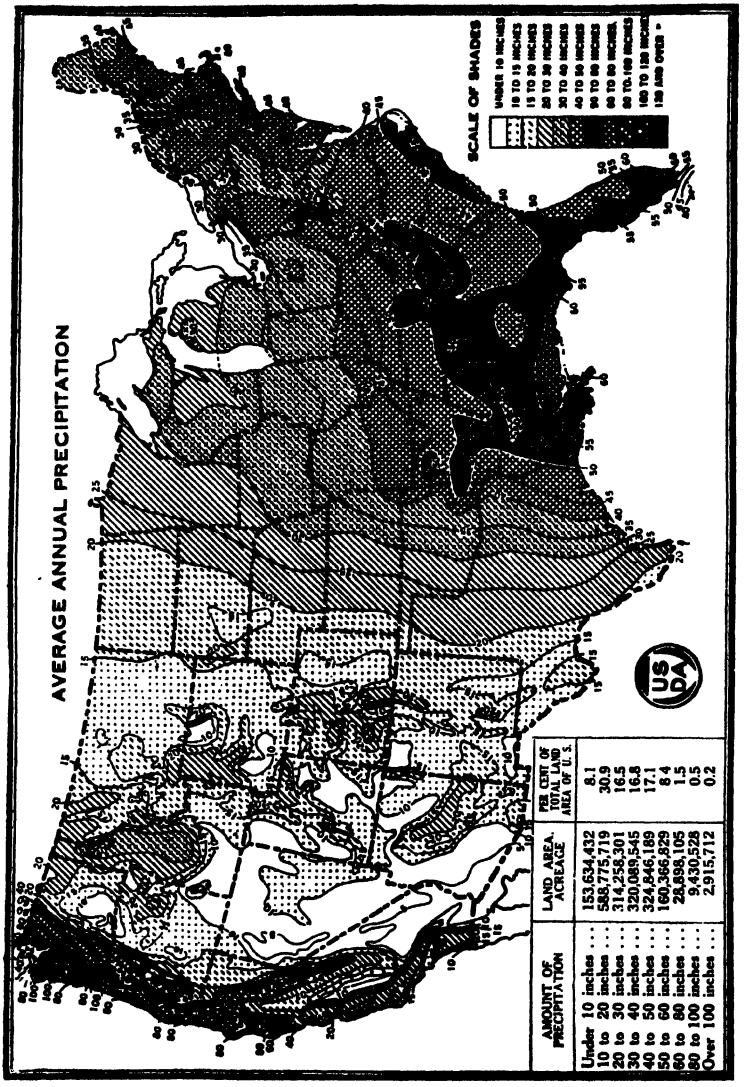


FIGURE 22.



AMOUNT OF PRECIPITATION	LAND AREA, ACREAGE	PER CENT OF TOTAL LAND AREA OF U. S.
Under 10 inches	153,634,432	8.1
10 to 20 inches	583,775,719	30.9
20 to 30 inches	314,258,301	16.5
30 to 40 inches	320,089,545	16.8
40 to 50 inches	324,846,189	17.1
50 to 60 inches	160,366,829	8.4
60 to 80 inches	28,898,105	1.5
80 to 100 inches	9,430,528	0.5
Over 100 inches	2,915,712	0.2

FIGURE 23.

materially reduced, and a large amount of pasture and meadow land in the older regions and wild grass land in the newly settled regions was drawn into cultivation.

When general deflation of prices began in the summer of 1920, wheat prices broke sharply and have continued to decline into the present season. As a result substantial reductions have taken place in both acreage and production of wheat. Nevertheless, the crop for 1923 is 781,000,000 bushels or 13 per cent greater than the average before the war, and the acreage is about 24 per cent larger. The corn acreage which was replaced by wheat has now recovered most of this loss, but is still slightly under the pre-war average. While there has been some reduction in cultivated crops, the total crop area of the country is still between 30,000,000 and 40,000,000 acres larger than before the war.

The States included in the Corn Belt, western winter wheat region, spring wheat region and Pacific Northwest, contain over 85 per cent of the 1923 wheat acreage and are, therefore, of special im-

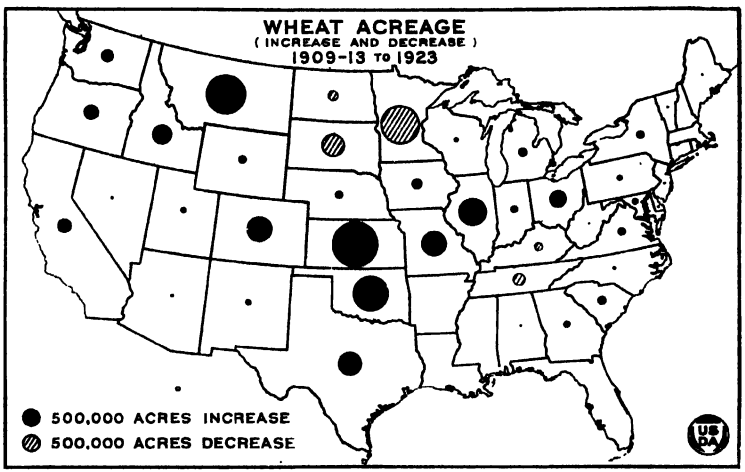


FIGURE 24.

portance. Winter wheat accounts for the major portion of our expansion in production. Of the 28,500,000 acres increase in total wheat area during the war about 22,000,000 were winter wheat.

In the Corn Belt wheat increased 7,000,000 acres and displaced about 3,000,000 acres of corn. Although substantial adjustments in crop acreages have been made since 1919, the wheat area is still almost 2,900,000 acres over the average before the war and the corn acreage is about 1,722,000 acres below. Some lands in the Corn Belt have also been returned to pasture and meadow.

The largest addition to the winter wheat area was made in the Great Plains States of Nebraska, Kansas, Colorado, Oklahoma, and Texas. By 1919 the wheat acreage in these States had been expanded by over 13,450,000 acres. Corn was reduced 8,275,000 acres, and

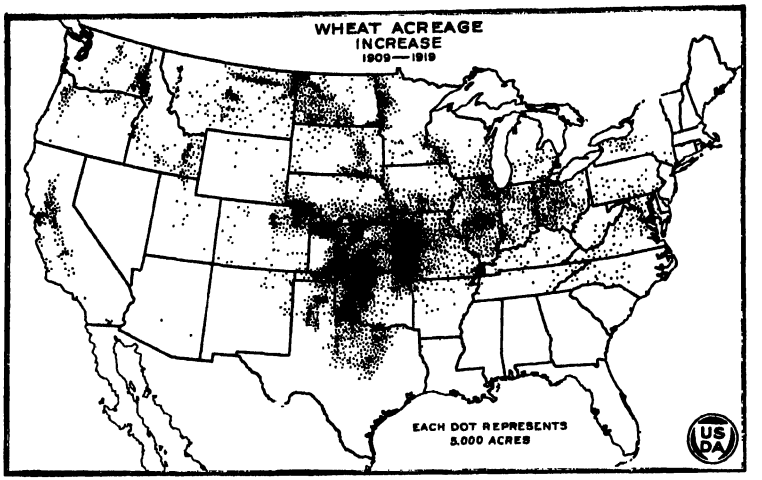


FIGURE 25.

better than 11,000,000 acres of meadow and wild pasture land were plowed up and planted to crops. Much of the new land sown to wheat was located in the semiarid part of the region where the harvested wheat acreage between 1909 and 1919 more than trebled. Crop acreages in the region as a whole are still considerably out of line with their pre-war relationships. The wheat area is 7,240,000 acres above and that of corn is about 4,600,000 below the pre-war average. No reduction appears to have been made in the total area of cultivated land which at the present time is almost 12,500,000 acres over the average before the war.

The area suited to spring wheat in the United States is more restricted than that for winter wheat and the expansion of the former has been, therefore, much smaller in amount. Less than 6,500,000

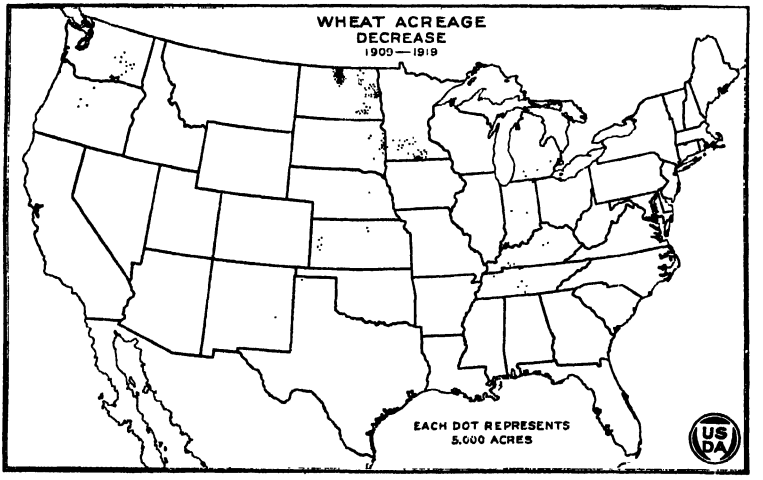


FIGURE 26.

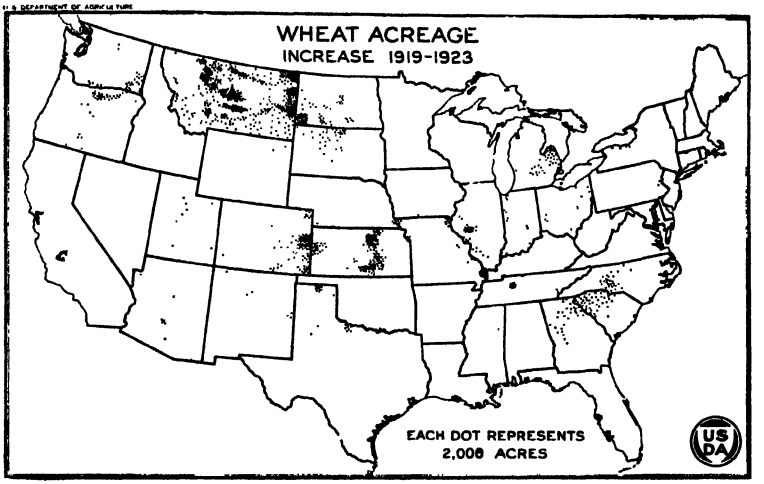


FIGURE 27.

acres were added to the spring wheat area during the war and all of this increase has since been lost.

The States of Minnesota, North Dakota, South Dakota, and Montana account for about 4,150,000 acres of the increase in spring wheat during the war. These States as a group at the same time materially enlarged their rye, corn, oats, and tame hay production and made important reductions only in the case of barley and flax. This crop expansion was brought about by plowing up some pastures and meadows in Minnesota and North and South Dakota, but more especially wild pasture lands in the semiarid sections of the western part of the Dakotas and in Montana. The region as a whole has reduced its 1923 wheat area to 700,000 acres less than the average before the war. This reduction has taken place, however, in the eastern part of the Dakotas and in Minnesota where farmers have

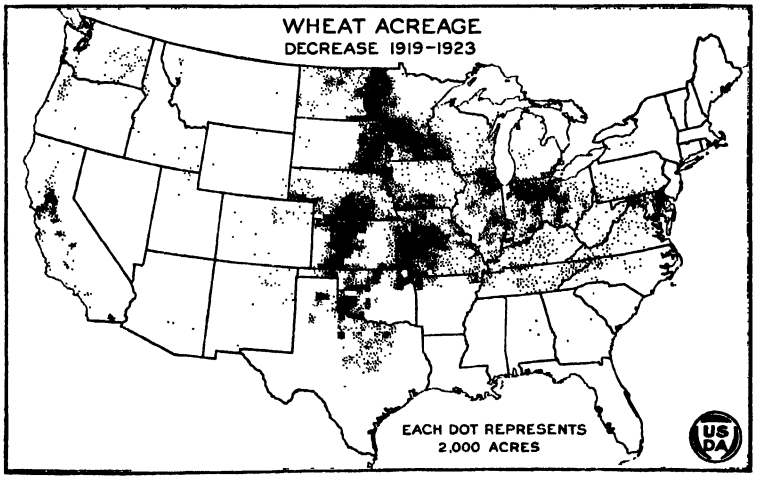


FIGURE 28.

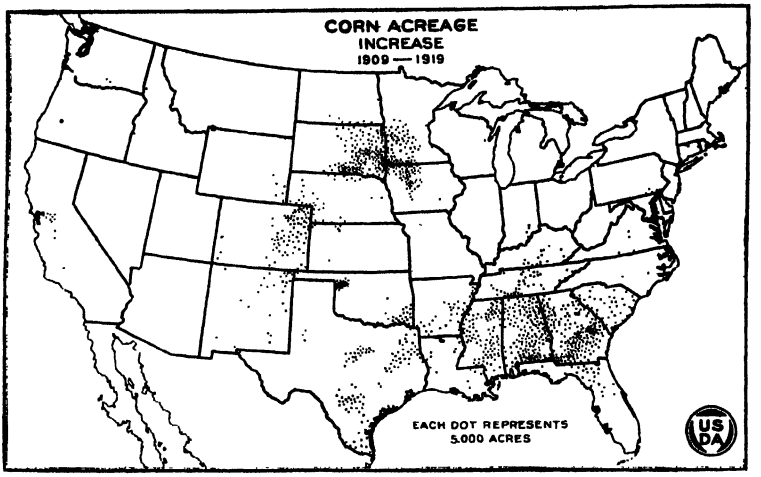


FIGURE 29.

turned to livestock and dairying as important lines of production. Although there has been considerable abandonment of lands during the past several years in the semiarid sections of North Dakota, South Dakota, and Montana, the harvested wheat acreage in these areas is this season about 176 per cent greater than in 1909, and for the region as a whole the area in cultivated crops has continued to expand since the beginning of the war.

The wheat area in the Pacific Northwest was enlarged to the extent of 1,250,000 acres, in considerable measure by decreasing the amount of summer fallow and by plowing up wild pasture lands, and only slightly through the replacement of other crops. Here again a substantial part of the additional acreage sown to wheat was semiarid land. Only slight reductions in the wheat acreage have been made since 1919.

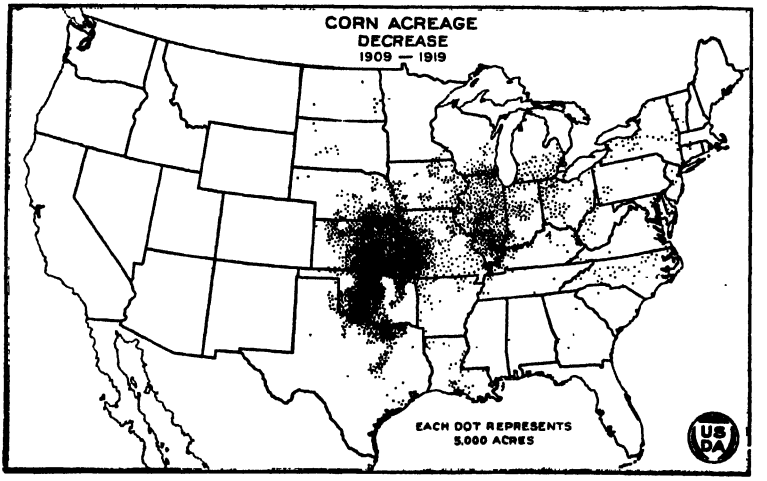


FIGURE 30.

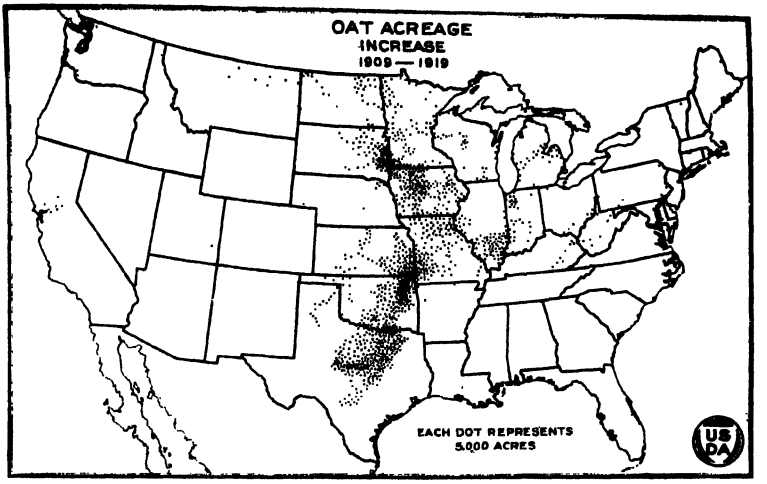


FIGURE 31.

Three aspects of our acreage shifts during the last decade may be emphasized. The area of land used for cultivated crops has been greatly extended, and large amounts of meadow and pasture have been brought into cultivation. The wheat area was very greatly expanded, displacing corn more than any other crop, and while considerable readjustment has been made, pre-war crop relationships have not been reestablished. Finally, within the semiarid regions of the West where crop hazards are high large bodies of wild pasture land have been broken and planted to wheat. In the one-crop system of these semiarid regions wheat holds a dominant place and has stubbornly resisted reduction.

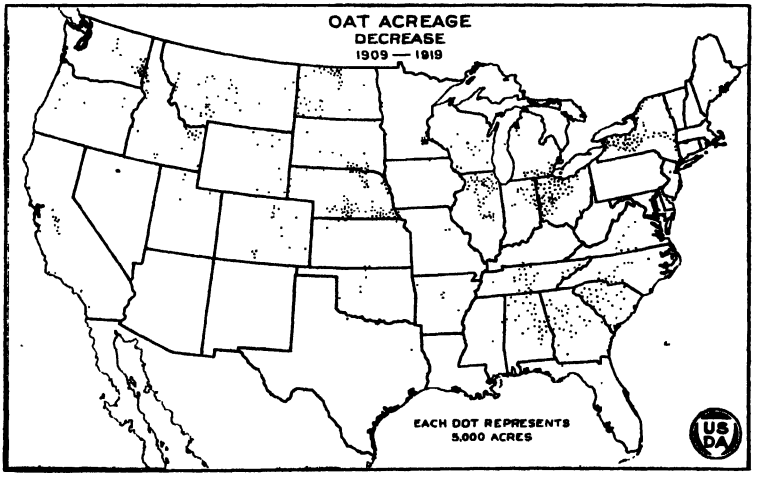


FIGURE 32.

Agricultural Readjustments in the Principal Wheat Regions.

The increasing foreign competition in wheat production points to a relatively low level of prices for wheat and to the advisability of materially reducing the acreage. Our wheat production should be placed gradually on a domestic basis and then should keep pace with our growth in population and domestic demand. In those regions where wheat displaced other crops in response to war-time prices, the acreage of wheat should be reduced as fast as profitable alternatives can be found.

INCREASE AND DECREASE IN WHEAT PRODUCTION IN THE UNITED STATES AND PRINCIPAL WHEAT PRODUCING REGIONS, 1909–1913—1923.

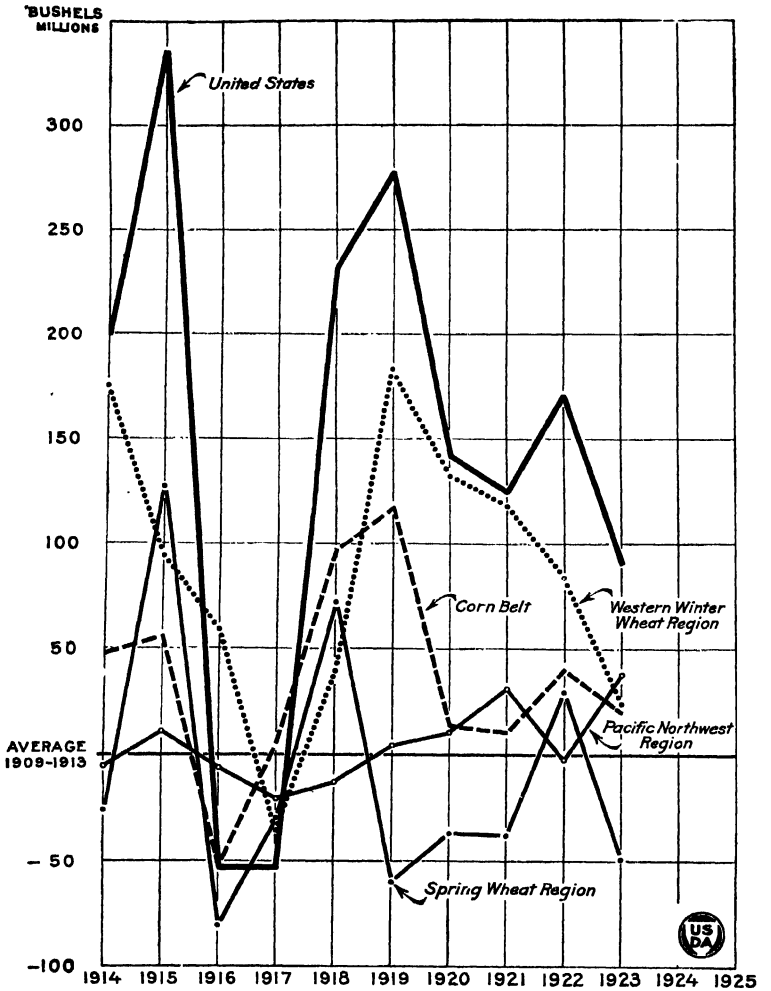


FIGURE 33.—Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri), western winter wheat region (Kansas, Nebraska, Oklahoma, Texas, Colorado), spring wheat region (Minnesota, North Dakota, South Dakota, Montana), Pacific Northwest region (Idaho, Washington, Oregon).

Most crops which can be substituted for wheat are feed crops and any marked increase in their production must be accompanied by more livestock. The prices of cattle and hogs are low, while those for dairy and poultry products, sheep and wool, are much better. Adjustments in crop acreages must take into account the relative price trends of farm products.

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN UNITED STATES, 1909–1913—1923.

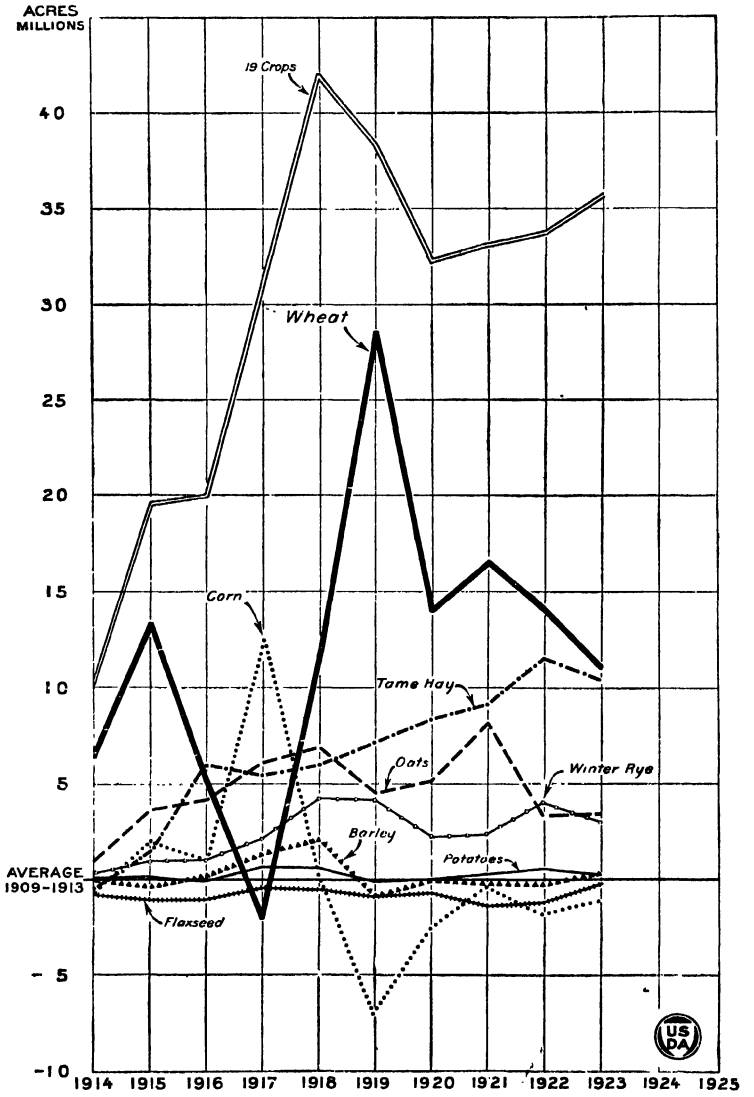


FIGURE 34. The 19 crops comprise about 95 per cent of total crop acreage in the United States.

Conditions vary widely between farmers as between regions, and what may apply to one individual may not apply to another. Wheat may have an important place in the rotation of some farms and further reduction may not be practicable, and the economical use of labor and equipment may make it desirable to maintain a relatively large acreage of wheat. Many wheat farmers, in short, are restricted in their choice of alternative crops, and, furthermore, are not financially able to change materially their type of farming. Under such conditions adjustments must be largely in the direction of economy and more efficient production.

Wherever possible, lands which give relatively low returns in cultivated crops should be seeded to meadow or be allowed to revert to pasture. Cash outlays in the production of crops can often be reduced. A part of the hired labor on some farms may be eliminated

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE CORN BELT, 1909–1913—1923.

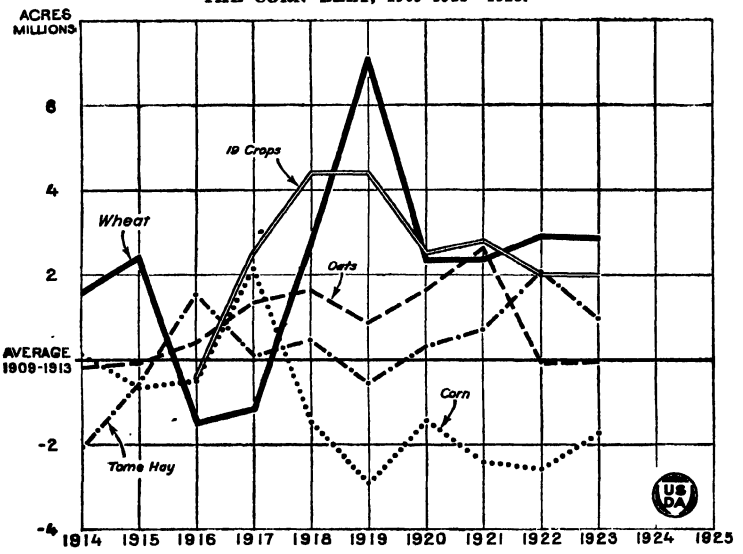


FIGURE 35.—Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri).

and more of the supplies for the household as well as feed for livestock may be produced on the farm. In some sections it even may be possible to supplement the farm income from sources outside of the farm.

Farmers in the Corn Belt and other eastern States have made substantial progress in readjusting their crops. The wheat area, however, is still in excess of the pre-war average, while that of corn is considerably below. The value of corn per acre in the region is usually greater than that of small grains which are included in the cropping system to permit the fuller utilization of farm labor and equipment and serve as nurse crops for pasture and hay. The spread between the average value of corn per acre in Ohio and that of either wheat or oats was greater in 1922 than it had been since 1913, and an acre of corn this year promises to be worth nearly twice

as much as either wheat or oats. At present prices, therefore, it appears that Corn Belt farmers will find it profitable to keep their corn acreage at the highest point consistent with a balanced labor program and the maintenance of soil fertility. It should not be overlooked, however, that the present relatively high prices for corn may not be maintained if the prices of cattle and hogs remain at present levels.

Conditions in the eastern humid parts of Nebraska and Kansas are very similar to those in the corn States to the east. A sub-

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE WESTERN WINTER WHEAT REGION, 1909–1913—1923.

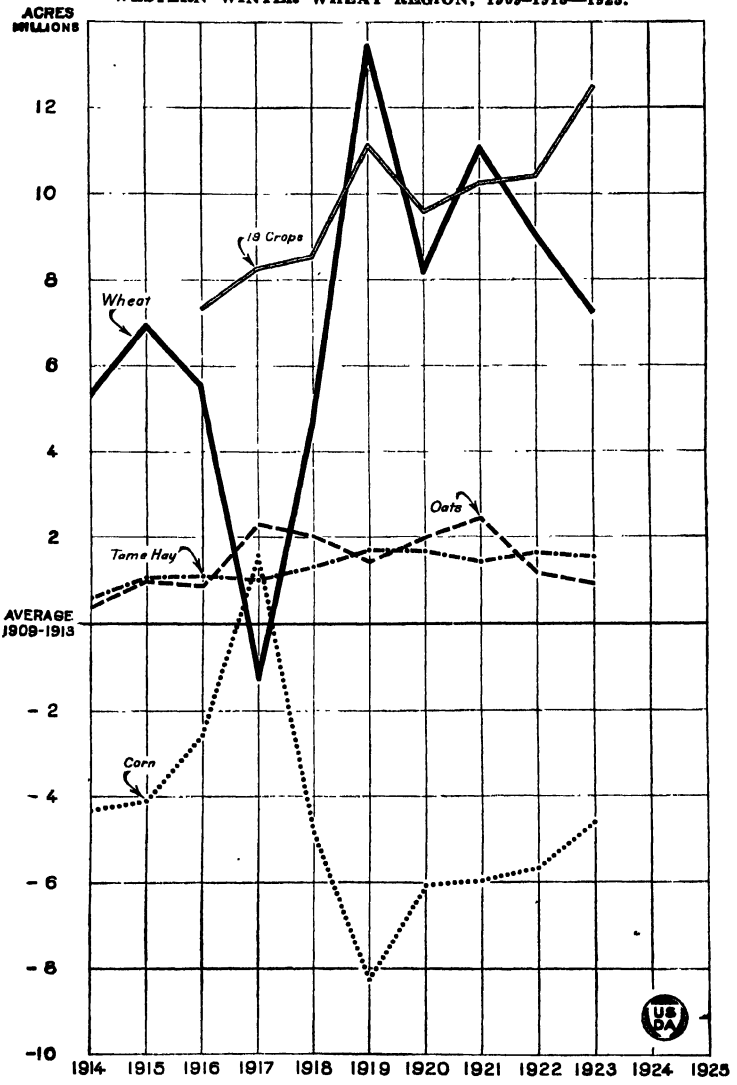


FIGURE 36.—Western winter wheat region (Kansas, Nebraska, Oklahoma, Texas, Colorado).

humid belt in which the rainfall is lower than in the eastern humid region cuts across the central portion of the western winter wheat States. Wheat yields in this belt are more dependable than those of corn, and wheat has occupied, therefore, a more important place in the system of farming. The value of an acre of wheat in McPherson County, Kans., which is representative of the subhumid region, has been higher than that of corn since 1913, and in a majority of years has exceeded also that of oats, barley, and rye. The spread between the acre value of wheat and corn was less in 1922 than it had been since 1917, and on the basis of average yields present prices place corn very nearly on an equality with wheat in value per acre. On the basis of average yields and present prices the value of an acre of wheat less the cash costs of producing it is about $3 under the corresponding value of an acre of corn. Since the demand of wheat and corn for labor do not seriously conflict, it appears that in so far as corn can be profitably utilized as feed or can supply a local demand it deserves a more important place in the cropping system of the region. As grain sorghums are more dependable in dry years than corn, farmers will usually find it advantageous to grow some sorghums to assure themselves feed in dry years.

In the humid portions of Minnesota and South Dakota where dairying and hog production have become the leading enterprises on most of the farms, wheat has already been displaced to a large extent by other crops.

Wheat has been the principal crop in the subhumid portion of the spring wheat region largely because the acre value of wheat has usually been greater than that of other crops. With present prices, however, more attention should be given to the production of feed crops, especially corn, and likewise to the production of flax. The one-crop system of wheat farming, hitherto largely followed, has resulted in weed-infested land, reduced soil fertility and in heavy losses in years of crop failure.

The production of flax in the United States is now confined almost entirely to the spring wheat region. Flax production has been below domestic consumption in every year since 1909, and while the acreage this year is the highest since 1913, the indications are that the consumption during the present year (July 1, 1923 to July 1, 1924) will be at least double this year's domestic production. The present tariff of 40 cents per bushel has resulted in an increase in price to growers in the United States, and so long as production is below consumption and the tariff remains in effect flax prices will probably be attractive.

The average value per acre of the 1922 flax crop in North Dakota was $9 more than the average value per acre of the wheat crop. This is a greater difference in favor of flax than had existed since 1916. Present indications are that the spread between the value per acre of the two crops this year will be nearly as great as it was last year.

Records from 150 farmers in northeastern Montana show that the average yield of wheat for the 10-year period 1913–1922 was 13 bushels and that of flax 6 bushels per acre. At these yields flax will be more profitable than wheat whenever the price per bushel of flax is more than twice as great as the price of wheat. Flax usually does best as the first crop on newly broken sod, but it probably is

advisable to confine the growing of flax to those farms where it can compete successfully with wheat on old but clean land.

In effecting adjustments in the agriculture of the semiarid regions special consideration must be given to the financial situation. Although financial difficulty is widespread among farmers in many regions where wheat is extensively grown, the situation is no doubt at its worst in the semiarid sections extending from western Kansas and eastern Colorado to the Canadian border. In these dry-land areas during the last few years farm indebtedness has grown in

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE SPRING WHEAT REGION, 1909–1913—1923.

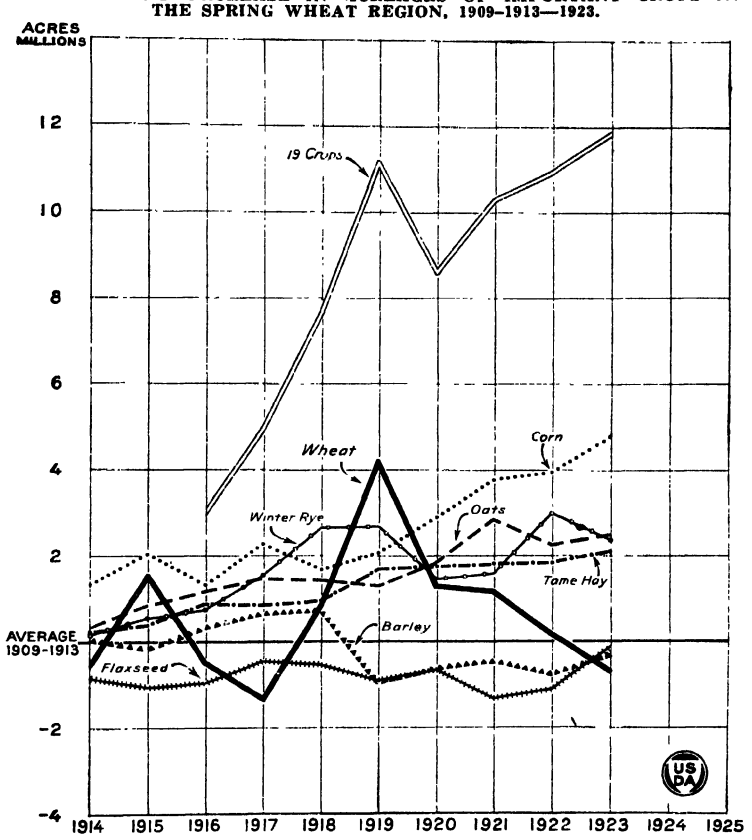


FIGURE 37.—Spring wheat region (Minnesota, North Dakota, South Dakota, Montana).

volume; delinquent farm interest and taxes have accumulated; foreclosures and bankruptcies have multiplied; and the capital and credit of farmers have been so depleted that it has been necessary to provide county, State, and Federal funds for seed and feed loans. With the failure of crops year after year business concerns have failed, a large number of banks have closed, and the financial stability of local government units in some cases has been severely tried.

This condition of things is the outcome of several causes, the results of which have been cumulative. The semiarid country of

the West was opened to settlement under a land policy which was not suited to the region. As a result a great deal of land which is poorly adapted for crops has been homesteaded and sown to wheat, frequently by settlers who were not equipped to cope with the problems of the region. In some years, when wheat prices were at war levels, crops in many sections failed. On the other hand, production costs remained high and long hauls and high freight rates to market bore down upon the dry-land farmer with special weight. Moreover, during the early years of the war, when crops were good, the high prices of wheat coupled with easy credit led to over-extension on the part of many in the purchase and renting of land and in outlays for more extensive equipment. The one-crop system of wheat farming, however, which has been so largely followed, is one of the most important factors in the situation. The complete failure of the wheat crop has frequently left the farmer without funds for living and other expenses. As one crop failure succeeded another,

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE PACIFIC NORTHWEST REGION, 1909–1913—1922.

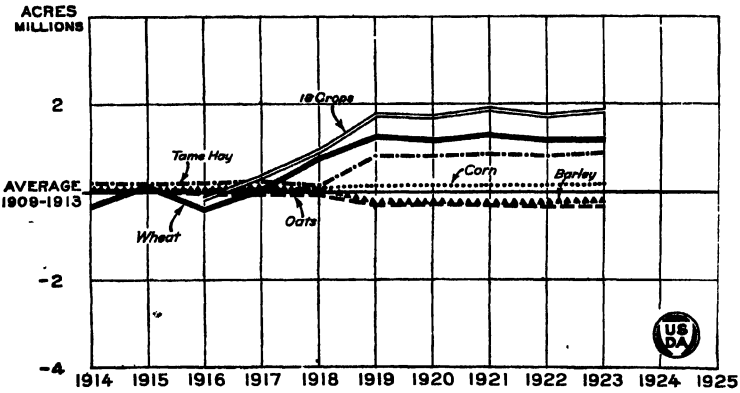


FIGURE 38.—Pacific Northwest region (Idaho, Washington, Oregon).

many farmers increased their wheat acreage in the hope of recouping previous losses and thereby often merely increased their indebtedness.

The situation varies materially within the semiarid wheat regions. Soil and climate are much more favorable to wheat production in some areas than in others, and in every region individual farmers may be found who because of their methods and business ability have met with a fair measure of success.

Fundamental and far-reaching adjustments must be made in the agriculture of this region. Wheat in the past has been the dominant crop and will probably retain an important place in the dry-land farming of the future. It is evident, however, that the one-crop system of wheat farming in general has failed under the methods commonly employed. A safer type of farming must be developed. The land now in cultivation which is not suited to field crops should be allowed to revert to pasture. Some forage crops should be grown on every farm and reserves of feed, livestock, and capital must

be carried from one year to another to tide over periods of crop failure. Both livestock and poultry will help stabilize the farm income. A considerable amount of wild pasture land in some sections is available for grazing purposes and should be utilized in so far as conditions will permit to supplement the farm income. Economical cropping and tillage practices which conserve moisture should be developed and used. Since average yields on dry land are relatively low, the farm business should be organized with a view to utilizing the maximum acreage consistent with good farm methods and the financial ability of the farmer. It is also important that there be developed a system of farming in which the dependence upon high-priced migratory labor is reduced to the minimum.

As a result of foreclosures or abandonment a large number of farms in various parts of the semiarid region are now in the possession of mortgage holders. Some of this land, no doubt, can be profitably cropped if capitalized at reasonable prices and if suitable farm methods are employed. There is much of it, however, which under present price levels will probably not yield satisfactory returns from field crops and should revert to pasture. For the development of a stable agriculture in the semiarid regions it is imperative that a true appraisal be made of the uses to which these lands can be put most profitably.

A change to a more stable form of agriculture in the semiarid regions will be gradual and assistance during the period of transition will be needed. Some farmers are now so deeply involved that further credit extensions will not benefit them. On the other hand there are many dry-land farmers whose loans should be extended under a long-term payment plan at a reasonable rate of interest, and who should also receive such additional credit as may be necessary to effect essential changes in the type and organization of their farming.

Summary and Conclusions.

The wheat industry of the United States is in a period of serious depression. A great many farmers have already lost their farms or other property and the financial condition of others is critical. This condition of things has resulted from the decline in wheat prices, the relatively high level maintained in the prices of other commodities and services, and also from the maladjustments which exist in the wheat industry itself.

Present low prices are caused by the large world supply of wheat, for which there is not an effective demand at higher price levels. The total world crop outside of Russia is estimated at 3,400,000,000 bushels, which exceeds the production of last year by 300,000,000 bushels and the pre-war average by 500,000,000, excluding Russia. Both importing and exporting countries whose production fell during the war are resuming rapidly the position they previously held as wheat producers. Moreover, the evidence indicates that competition in wheat production will increase very materially. Russia is gradually restoring her agriculture and is already exporting some bread grains. Argentina, Australia, and especially Canada are selling abroad large amounts of wheat and will in all probability continue to expand their wheat exports. These countries enjoy material advantages over the United States in the production of wheat. So

long as the United States produces a surplus, the prices of American wheat will be determined largely in the markets of the world and American farmers as exporters of wheat must be prepared to meet the keen competition of foreign producers for these markets.

Although wheat prices have dropped to pre-war levels, prices of manufactured commodities and of services remain high. The costs which enter into the production and marketing of wheat are so high that, at present prices for wheat, the farmer can not continue to pay them and remain in business. Taxes, machinery, wages, freight rates, and prices of food and clothing are out of proportion to the price of wheat and the earnings of the wheat farmer.

A number of factors within the wheat industry itself also have contributed to the present wheat crisis. Lands on which wheat can not under present economic conditions be grown profitably have been brought into cultivation in some regions. This fact coupled with the dependence placed upon wheat as a cash crop accounts for the losses of some farmers. Furthermore, high prices and the appeal for larger food supplies during the war induced many farmers to expand unduly their farm operations and to incur liabilities which since the break in wheat prices they have been unable to carry. The financial distress which has come as a result of these various causes is considerably aggravated by losses which are due to inefficient farm management. Many farmers are growing and marketing wheats which do not fulfill the highest market requirements and consequently fail to yield maximum net returns. On some farms, furthermore, excessive emphasis on wheat carries with it an unsatisfactory seasonal distribution of farm labor with resulting heavy expenditures for hired help. The financial difficulties of many, in short, would be reduced if their farm business were operated along more efficient lines.

It is important to bear in mind that the solution of present agricultural difficulties depends quite as much upon the efforts of farmers themselves as upon any Government action. There are fundamental and far-reaching adjustments in production and marketing which farmers themselves must make as a part of a long-time program. A survey of the situation indicates that well-considered action in a number of directions will bring wheat farmers a substantial measure of relief.

A large number of wheat producers are on the verge of bankruptcy. Many of them are, no doubt, beyond the point where further credit extensions would benefit them. On the other hand, a larger number can and should be saved by the renewal of loans or by additional credit on reasonable terms. Where a large volume of personal credit exists and the mortgage status of the farm permits, outstanding short-time loans should be funded into long-term mortgage loans at lower rates of interest. In this connection full advantage should be taken of the facilities afforded under the Federal Farm Loan Act. Moreover, the new credit facilities provided in the Federal intermediate credit banks should be utilized to reduce the cost of personal credit to the farmer. In this bankers should lend a willing hand even where such action does not increase their immediate profits. The constructive country banker will readily see that in the long run such action benefits him as well as the farmer.

To meet successfully foreign competition in some markets in which exchange rates and opportunities for exchange of commodities favor purchases of wheat from other sources, easy credits on Amer-

ican purchases may be necessary. The War Finance Corporation should make special efforts to finance the exportation of wheat in line with the joint resolution of Congress, January, 1921, reviving the activities of that corporation.

The wheat surplus may be reduced materially by increasing domestic consumption. The per capita consumption of wheat flour and bread has been lessened by the war-time campaign to save food, coupled with the high prices for bread which have since been maintained. A reduction in the price to consumers by narrowing the margin between wheat flour and bread would, no doubt, increase the consumption, and a return by public eating houses and dining cars to the custom of serving bread free with orders would contribute to the same end. Furthermore, at present prices wheat can be economically substituted for corn as livestock feed in many parts of the country, and its use for this purpose may be increased to advantage.

PRICES OF WHEAT, FOOD, AND ALL COMMODITIES; EARNINGS OF FACTORY WORKERS; COST OF LIVING; AND FREIGHT RATES, 1913–1923.

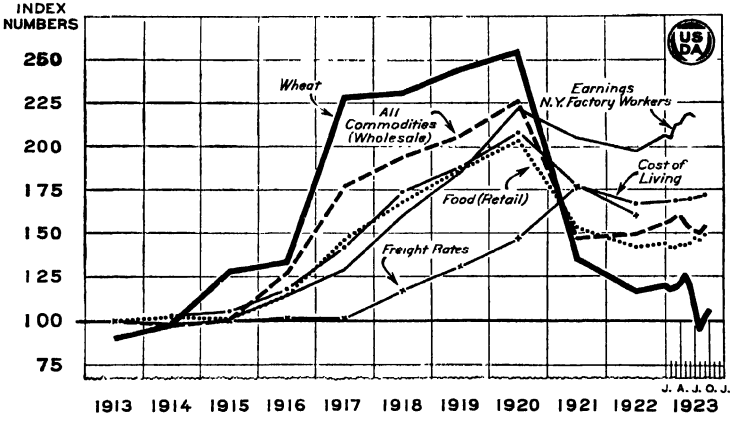


FIGURE 39.

American freight rates, which are still 45 per cent and more above those of 1913, have not been adjusted to meet the decline in farm prices, whereas Canadian rates are now practically back to their pre-war level. To meet the emergency a reduction of at least 25 per cent in interstate rates on wheat and wheat products originating in the distressed wheat areas would be helpful, these rates to remain effective until wheat prices shall have more nearly reached a parity with the prices of other commodities or until a readjustment has been made in all freight rates. In order to determine a proper basis for this adjustment, the Interstate Commerce Commission or a special commission composed of representatives of railroads and shippers, and created for that purpose, should review without delay the entire structure of interstate railroad rates and should make or submit recommendations for adjustments which will return adequate revenues to the railroads and as well afford some relief in the way of reducing the cost of transporting agricultural products.

Farm taxes in many sections of the country have become a serious burden, especially in regions where farmers are in financial distress, and a downward revision is essential. The partial substitution of taxes based on income for the present property taxes would provide

a measure of relief. Further shifting of the cost of good roads to those who make most use of them, through taxes on gasoline and motor vehicles, offers still another means of a more just distribution of the tax burden.

Changed market conditions necessitate important readjustments in crops. As foreign outlets for American wheat become more restricted, the production of wheat should be gradually placed on a domestic basis, and the wheat acreage should be reduced as fast as profitable alternatives can be found.

Adjustments in agricultural production should be made in accordance with differences in regional and farm conditions. In some parts of the wheat territory some shift from wheat to corn probably will be profitable. Oats for local consumption might be substituted for wheat to a slight extent. With present prices flax will be a profitable alternative on suitable land for a small portion of the wheat acreage in the Northwest. Since the prices of dairy products have continued relatively strong, further emphasis should be placed on dairying and the production of feed crops. This increase in diversity of crops and livestock will in general result in better organization of the farm business and also help to stabilize the farm income.

A safer type of farming must be developed for the semiarid regions. Lands which are unsuited to field crops should be dropped from cultivation and revert to grass land. Some forage crops and livestock should be grown on every dry-land farm. Reserves of feed, livestock, poultry, and capital should be carried from year to year to tide over periods of crop failure, and the farm business should be so organized as to secure the maximum returns per man.

Each farmer should carefully review the possibilities which lie before him. Undoubtedly diversification will result, from careful thought on this subject, in many of the States where the surplus wheat acreage is found. On the other hand, in those regions where wheat is grown as a part of a diversified system of farming, it may be that even at the present price it is more profitable than any alternative crop.

In the present critical situation it is very essential that wheat farmers adopt methods which reduce production costs and conserve the cash income. This may be accomplished by avoiding out-of-pocket cost, by growing on the farm in so far as possible the feed supplies for the stock and provisions for the family, a policy which is made more urgent by the increase in freight rates and the high cost of processing and retail distribution, by utilizing to the fullest possible extent the available labor supply and the farm equipment through a well-balanced diversification of crops and a better distribution of labor throughout the year, by keeping land of low production in grass and other crops demanding but little labor or expense, and by devoting labor and capital to such crops and livestock enterprises as promise to give the greatest profits.

Improvement in the quality of wheat produced will materially increase profits in the wheat industry. Certain classes of milling wheats are in special demand and should be substituted for less desirable wheat wherever conditions are favorable. Moreover, heavy and unnecessary losses are incurred by farmers in producing and marketing dirty and low-grade wheat. The production and marketing of dockage is expensive. Wheat should be cleaned before sow-

ing and marketing, care should be exercised in its storage, and such seed selection and farm practices in growing and harvesting should be adopted as will result in the best market grades of wheat.

Prices paid at terminal markets reflect quite accurately the variations in quality of wheat; prices paid at country points frequently do not. Farmers must know the quality and grade of their wheat in order intelligently to bargain for the best market price. Wheats of high gluten content usually command premiums at terminal markets. While the Federal grades for wheat through subclass specifications indicate broadly the gluten content, the only practicable method of measuring it requires extensive laboratory equipment. It is desirable, therefore, that State authorities, in cooperation with the Federal Government, undertake to determine and make available as early as possible in the harvest season information in regard to the gluten content of wheat in the important wheat-producing areas. Wheats may vary widely in gluten content within local areas; farmers should, therefore, have individual tests made of their wheats by the agencies set up for this purpose.

Concerted and coordinated action in the form of producers' organizations should improve the production and marketing of wheat. Higher returns may be obtained by standardizing the production of wheat in conformity with market demands, and substantial economies may be made in the cost of wheat marketing. Cooporative organizations efficiently managed will contribute to this end and their development should, therefore, be still further encouraged.

The movement of farmers into other occupations which is now under way will help to restore the balance between agriculture and other industries. Every farmer who is not able to make a living where he is should review carefully his own possibilities, but should not make a blind move into other types of farming or into city occupations. There are, however, thousands of farmers skilled in the industries of the city who will doubtless turn to their former occupations for relief.

The adjustments that have been indicated are part of a long-time program for agriculture and must be made in considerable measure through the efforts of the farmers themselves. Yet all of these means will not go far toward promptly restoring the purchasing power of the farmer's dollar, which has been unreasonably reduced by the rapid deflation which agriculture was least able to resist.

Since the immediate difficulty in the present situation is the maladjustment in price ratios, what is most needed right now is some way to restore the proper ratios either by increasing the prices of farm products or by reducing the prices of other commodities.

The prices of farm equipment, food, clothing, and building materials, as well as farm wages, are influenced by the costs of mining, transportation, and manufacturing, and by the ability to adjust production to that limit of supply which can be sold in the domestic market at a price to yield a profit.

One of the largest elements in the production cost of manufactured products as well as in transportation cost is the wages of labor. Wages have remained high since the war. The immigration and Adamson laws, together with the policies of organized labor, have been potent factors in maintaining wage scales. On the other hand, the domestic market for the products of the manufacturing indus-

tries makes it possible for them to continue production at a profit even with high wages for industrial labor. Under these conditions organized industry can maintain high prices in the domestic market and dump surpluses in foreign markets at low prices.

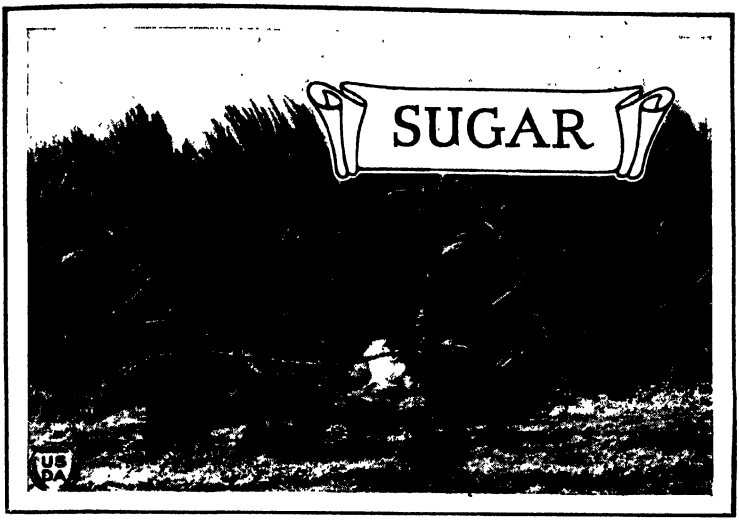
The question may be raised whether protection to labor and industry shall be withdrawn in order that the inflow of foreign labor and manufactured products may reduce the prices of the products which farmers buy to the level of farm products or whether some better remedy should be sought. The better and more practical alternative may be to try to improve prices of farm products of which we have an exportable surplus and which are, therefore, unduly depressed. Abundance of work at good wages gives assurance of good demand for farm products, but justice requires that the farmer be helped so far as possible and proper to secure relatively good wages for his labor. Indeed, industry and labor can not hope long to enjoy a disproportionately high price level for their products for the simple reason that farmers constitute about 30 per cent of the purchasers of such products and if the farmers' ability to buy is materially lessened for any length of time. both industry and labor suffer through lessened demand and prices will be forced lower.

Cooperation among farmers has been suggested as a means of attaining the end sought. While cooperation is to be encouraged as one of the best means of improving marketing methods and reducing marketing costs, as well as of improving the quality of farm products, it does not appear possible, and certainly not within a short period of time, to organize the producers of the great staples of American agriculture so effectively as to give them that control over supply which is necessary substantially to influence price.

The sale or gift of a substantial part of our surplus wheat to countries which are not able to buy, and which would, therefore, take out of the ordinary channels of trade and competition the wheat sold or given, would unquestionably have a helpful effect upon domestic prices of wheat, provided larger tariff protection were given. Before such sale or gift could be consummated, however, more than two-thirds of this year's wheat crop will have passed out of the hands of the farmers.

Inasmuch as the first step looking toward increasing the domestic price requires the disposition of the surplus over and above domestic needs, and inasmuch as the facts presented in the foregoing pages indicate that the world production of wheat will probably be overlarge for another year or so, the suggestion that the Government set up an export corporation to aid in the disposition of this surplus is worthy of the most careful consideration. Such a corporation necessarily would need rather broad powers. It would not be necessary that it should undertake to handle the entire crop, and it could probably carry on its activities in cooperation with existing private agencies. If it should be found necessary to arrange for the sale of the surplus exported at a price much lower than the domestic price, the loss so incurred would properly be distributed over the entire crop.

The prime duty of such an export corporation would be to restore, so far as possible, the pre-war ratio between wheat, and other farm products of which we export a surplus, and other commodities. Its activities would therefore expand or contract according as the relative prices for farm products varied with other commodites, and it would cease to function as pre-war ratios become fairly well restored.



By E. W. BRANDES, C. O. TOWNSEND,[1] P. A. YODER, and S. F. SHERWOOD, *Bureau of Plant Industry;*[2] R. S. WASHBURN, G. B. L. ARNER,[3] and O. E. BAKER, *Bureau of Agricultural Economics;* F. C. STEVENS,[4] *Louisiana College of Agriculture;* F. H. CHITTENDEN, *Bureau of Entomology,* and C. F. LANGWORTHY, *Bureau of Home Economics.*

SUGAR provides about 13 per cent of all the energy obtained from food consumed by the people of the United States (fig. 1). The average amount eaten is 2 pounds per person per week. This includes the sugar used in candies, sweet drinks, and other foods not prepared in the home. The amount which would be used in cooking and on the table averages about 1½ pounds per person per week. For a family consisting of a father and mother, both doing active muscular work, and three children, 9, 6, and 4 years old, the average consumption amounts to between 6 and 7 pounds of sugar a week. The amount of sugar consumed is now higher in the United States than in most other parts of the world, the per capita consumption having increased during the last 100 years from 10 pounds to over 100 (fig. 2). There are no statistics to show how the increased per capita consumption is used, but it seems safe to assume that a considerable proportion goes into candies and sweet drinks.

It is well known that pure sugar provides none of the nitrogenous or mineral substances needed to make muscle or other body tissues. These important substances, and also the vitamins, must be supplied by meat, milk, eggs, cereals, vegetables, fruits, and other food materials. When used in proper proportion to other foods, sugar is a

[1] Doctor Townsend was originally chairman of the committee which began the preparation of this article. While the work was in progress he was transferred to the Tariff Commission. The article has been extensively revised and rewritten.

[2] H. S. Paine, Bureau of Chemistry, contributed a portion of the material on manufacture of sugar from beets; and W. E. McLendon, Bureau of Soils, a portion of the material on soils of the Louisiana sugar-cane district, also of the sugar-beet districts.

[3] P. F. Brookens assisted Doctor Arner in the preparation of the material on price and consumption.

[4] The contribution of Mr. Stevens, Louisiana Agricultural College, on labor requirements and costs of producing cane in Louisiana was prepared in cooperation with the Bureau of Agricultural Economics and was summarized for publication by O. A. Juve, L. E. Long, and R. H. Wilcox of that bureau.

valuable article of diet. As a source of fuel, sugar is extremely economical. A pound yields 1,820 calories of energy. At 6 cents a pound it provides 100 calories of energy for one-third cent, a figure which is lower than that for almost any other of the familiar food materials.

In addition to the energy value of sugar it imparts at the same time an agreeable flavor to food. If it were not for the presence

FUEL VALUE AND COST OF SUGAR IN THE DIET.

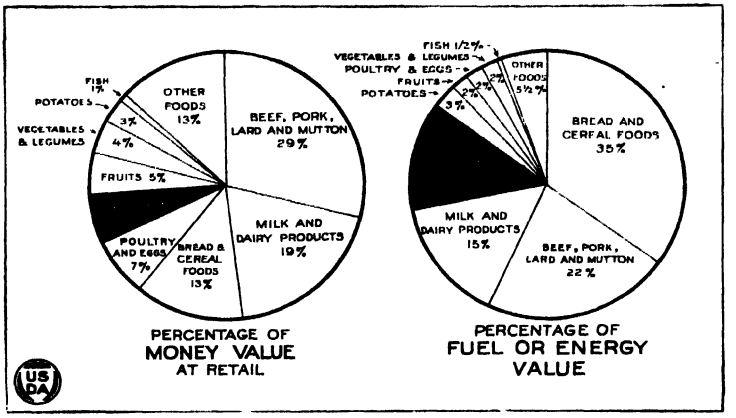


FIG. 1.—Sugar supplies about 13 per cent of the energy or fuel value of the foods consumed in the United States; but its cost at retail, including candy, is only about 6 per cent of the total expenditure for food.[1]

[1] Quantity of foods consumed based on statistics of production plus imports minus exports; percentages of fuel or energy value of vegetable products computed from tables in Pearl's "Our Nation's Food," and of animal products from estimates of United States Department of Agriculture for 1918–1922; percentages of money value are based on Bureau of Labor's retail price for 1918–1922, except that farm prices were used for half the poultry and eggs, milk and dairy products, and potatoes, while values of fruits and vegetables were based on census and other data. A study made by the Department of Agriculture of the diet of 500 families shows the following percentages supplied by foods of different sorts. For discussion see United State Department of Agriculture Miscellaneous Circular No. 6 (1923).

TABLE 1.

Food material.	Weight.	Protein.	Fat.	Carbohydrates.	Energy.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Meats	7.4	21.9	24.6	.....	10.7
Fish	1.2	3.1	.8	.....	.6
Dairy products (includes butter)	24.2	17.7	38.1	4.9	17.7
Lard	.5	.....	6.8	.....	2.2
Other animal fats	.2	.....	1.7	.....	.3
Eggs	2.1	5.2	3.4	.....	1.7
Total animal food	35.6	47.9	75.4	4.9	33.2
Cereal products	19.5	38.6	6.8	53.0	36.1
Sugar and sirups	4.7	.....	.....	18.9	10.4
Vegetables	24.2	10.4	.9	13.0	8.7
Fruits	12.9	2.1	.9	9.5	5.8
Vegetable fat	.5	.....	7.6	.....	2.5
Miscellaneous vegetable food	.5	1.0	2.5	.7	1.3
Total vegetable food	62.3	52.1	18.7	95.1	64.8
Miscellaneous	2.1	.....	5.9	.....	2.0
Total food	100.0	100.0	100.0	100.0	100.0

TOTAL AND PER CAPITA CONSUMPTION OF SUGAR, CONTINENTAL UNITED STATES, 1823–1922.

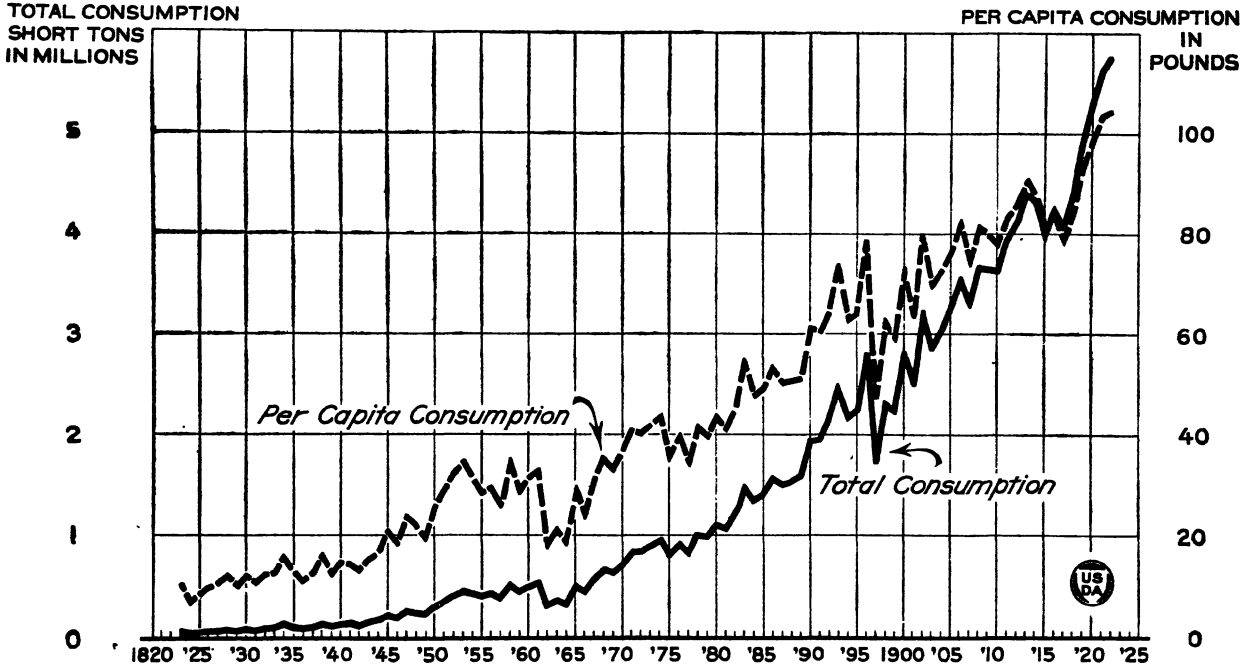


FIG. 2.—The consumption of sugar in the United States has increased during the past century from less than 10 pounds to more than 100 pounds per capita, while the total consupmtion in the United States has increased from a few thousand tons to more than 500,000 tons.

of sugar the diet would be less palatable to most persons and the use of flavoring extracts, spices, and other flavoring materials would probably be much increased, which would add to the cost of the diet without adding directly to its food value.

The annual cane and beet sugar production in the continental United States supplies only about 1,200,000 tons, or scarcely one-fourth of the total of over 5,000,000 tons of sugar consumed annually in this country. Combined with the production of sugar from cane in Porto Rico, the Territory of Hawaii, and the Philippines, the production of sugar under the American flag does not quite reach half of the amount consumed by the American people (figs. 3 and 48). Notwithstanding this inadequate domestic production, our continental and insular sugar industry is one of vast proportions utilizing millions of acres of land and occupying the time of millions of persons (Table 2).

Historical Development.

Sugar cane was introduced into the New World shortly after its discovery, and it is recorded that in 1518 many sugar mills were in operation on the island of Santo Domingo. It was not until 1751,

SUGAR PRODUCTION IN THE UNITED STATES AND INSULAR TERRITORIES, 1900–1922.

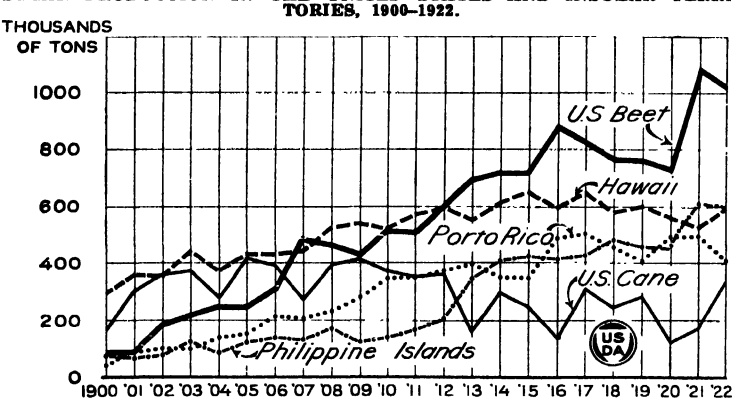


FIG. 3.—The sugar-cane production of Hawaii, Porto Rico, and the Philippines has increased more rapidly than that of Louisiana. The production of each of these insular territories is now greater than the cane sugar production of the continental United States. Likewise, beet-sugar production has increased more rapidly than that of cane sugar in the continental United States, and is now nearly four times as great as the production of cane sugar.

however, that the plant was grown in continental America as a result of the importation of cuttings by Jesuits in Louisiana. From that time it was cultivated in a desultory manner until the end of the eighteenth century, when the failure of indigo and other crops forced the Louisiana planters to turn their attention to the manufacture of sugar as a source of revenue. Establishment of the American sugar-cane industry may be said to date from 1795, when the first successful mill began operations on a plantation about 6 miles above New Orleans. Other mills soon followed and from that time an almost continuous extension of the industry was experienced until about 1894. Production then remained about constant till 1911, and in recent years has been somewhat lower (fig. 4).

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LOUISIANA SUGAR PRODUCTION, 1823–1922.

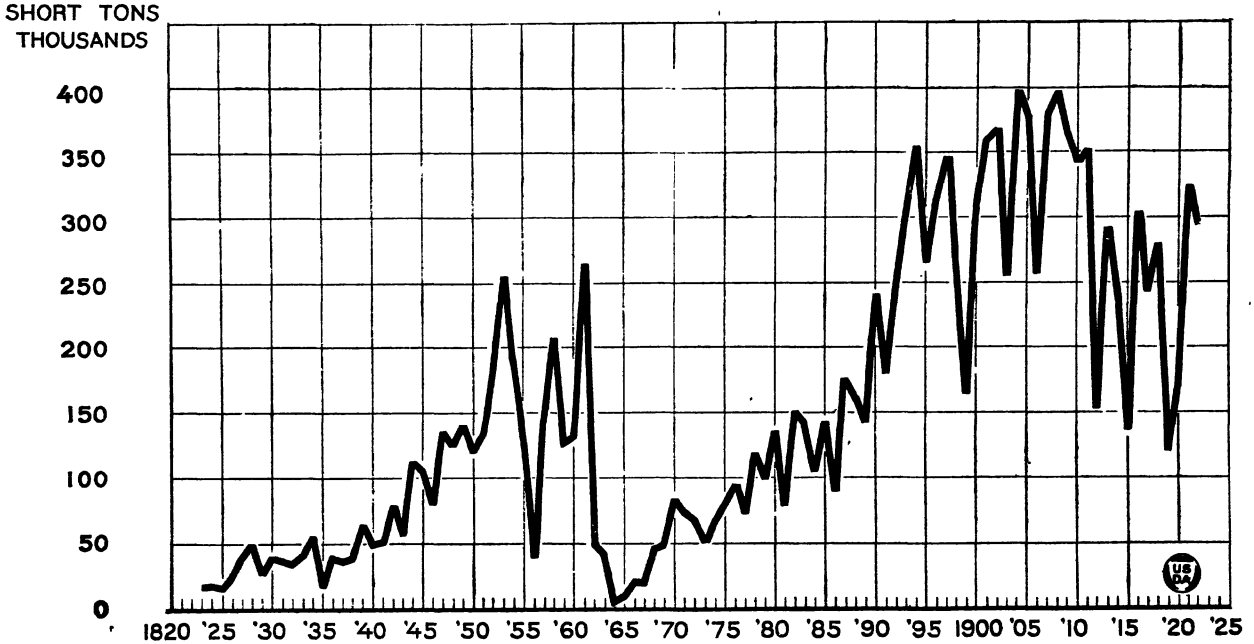


FIG. 4.—The production of cane sugar in Louisiana increased rapidly until the beginning of the Civil War. During the period of the war cane-sugar production in the Southern States was reduced practically to nothing. From that time there was a more or less constant increase in cane-sugar production until about 1904, after which date the production has decreased somewhat with wide annual variations.

The establishment of the sugar-beet industry on a paying basis has been a comparatively recent development in American agriculture. Attempts to launch the industry were made as early as 1838, but all efforts met with failure until 1879, when a factory erected at Alvarado, Calif., proved to be a profitable undertaking. By 1890 several factories were operating, and from that time, stimulated by the policy of taxing imported sugar, the production of beet sugar has increased, until at present it amounts to about a million tons per annum, as compared with one-fourth that amount manufactured from cane (figs. 5 and 6).

TABLE 2.—*Acreage and production of sugar beets and sugar cane, and quantity of sugar produced, continental United States and Insular Territories, 1919.*

SUGAR BEETS.

States.	Farm census reports.						Sugar factories reports.[1]			
	Farms reporting.	Percentage of all farms.	Area harvested.	Area per farm reporting.	Beets produced.	Yield per acre.	Area harvested.	Beets sliced.	Sugar produced.	Production per acre.
	No.		*Acres.*	*Acres.*	*Tons.*	*Tons.*	*Acres.*	*Short tons.*	*Short tons.*	*Lbs.*
California	1,488	1.3	88,257	59.3	666,866	7.56	107,000	805,000	131,000	2,440
Colorado	7,604	12.7	165,840	21.8	1,658,167	10.00	183,000	1,656,000	194,000	2,120
Idaho	2,760	6.6	37,334	13.5	260,309	6.97	30,000	197,000	26,000	1,740
Michigan	14,812	7.5	106,450	7.2	1,025,550	9.63	123,000	1,032,000	130,000	2,120
Nebraska	1,531	1.2	54,496	35.6	554,646	10.18	59,000	554,000	61,000	2,060
Ohio	3,684	1.4	33,561	9.1	365,415	10.89	31,000	292,000	32,000	2,060
Utah	8,398	32.7	93,359	11.1	930,427	9.97	103,000	908,000	101,000	1,960
Wisconsin	3,495	1.8	12,737	3.6	136,208	10.69	12,000	106,000	11,000	1,840
All other	3,439	.3	44,410	12.9	395,821	8.91	44,000	338,000	40,000	1,820
United States	47,211	.7	636,434	13.5	5,993,409	9.42	692,000	5,888,000	726,000	2,100

SUGAR CANE.

States.	Farms reporting.	Per centage of all farms.	Area harvested.	Area per farm reporting.	Quantity of cane produced.	Yield per acre.	Quantity of sugar produced.	Sugar produced average per acre.	Quantity of sirup produced.	Sirup produced average per acre.
	No.		*Acres.*	*Acres.*	*Tons.*	*Tons.*	*Tons.*	*Lbs.*	*Gallons.*	*Gals.*
Alabama	56,604	22.1	25,302	0.45	208,342	8.23	.....	.....	3,235,231	128
Arizona	11	.1	10	.90	60	6.00	.....	.....	758	76
Arkansas	3,686	1.6	2,406	.65	9,695	4.03	.....	.....	165,947	69
Florida	24,331	45.1	20,413	.84	179,573	8.80	.....	.....	3,675,249	180
Georgia	72,740	23.4	41,558	.57	365,603	8.80	.....	.....	7,052,984	170
Louisiana	36,421	26.9	[2]234,049	6.42	[2]2,435,683	10.41	[2]121,000	.....	1,899,423	.....
22 sugar-producing parishes	12,296	31.1	[2]221,204	18.00	[2]2,325,004	10.50	121,000	[4]1,340	326,474	.....
Other parishes	24,125	25.1	12,845	.53	111,679	8.69	.....	.....	1,572,949	122
Mississippi	44,795	16.5	25,256	.56	186,283	7.38	.....	.....	3,015,956	119
South Carolina	13,600	7.1	5,537	.41	34,947	6.31	.....	.....	563,953	102
Texas	19,090	4.4	18,407	.91	[2]124,493	6.76	1,125	.....	1,631,459	89
United States	271,278	4.2	372,938	1.37	3,544,679	9.53	122,125	.....	21,240,960	135
Hawaii	1,310	24.8	123,165	94.02	4,862,707	39.48	556,343	9,034	.....	.....
Porto Rico	8,839	21.5	227,815	25.77	3,961,984	17.39	485,071	4,258	[5]262,729	.....
Virgin Islands [6]	286	66.5	8,685	30.37	84,129	9.69	8,149	1,877	.....	.....
Philippine Islands [7]	.....	.....	598,424	.....	.....	.....	662,362	1,880	.....	.....

[1] These figures are from reports of sugar factories received by United States Department of Agriculture.
[2] Bad seasonal conditions in Louisiana and Texas in 1919 caused an abnormally low yield. Ordinarily the yields per acre are a half to two-thirds higher.
[3] Of this amount 179,900 acres were grown for sugar only, producing 1,883,000 tons of cane, according to reports of United States Department of Agriculture.
[4] Sugar produced per acre of cane used for sugar. See footnote No. 2.
[5] Short tons.
[6] Virgin Islands census of 1917.
[7] 21st Annual Report, Philippine Bureau of Agriculture, 1922.

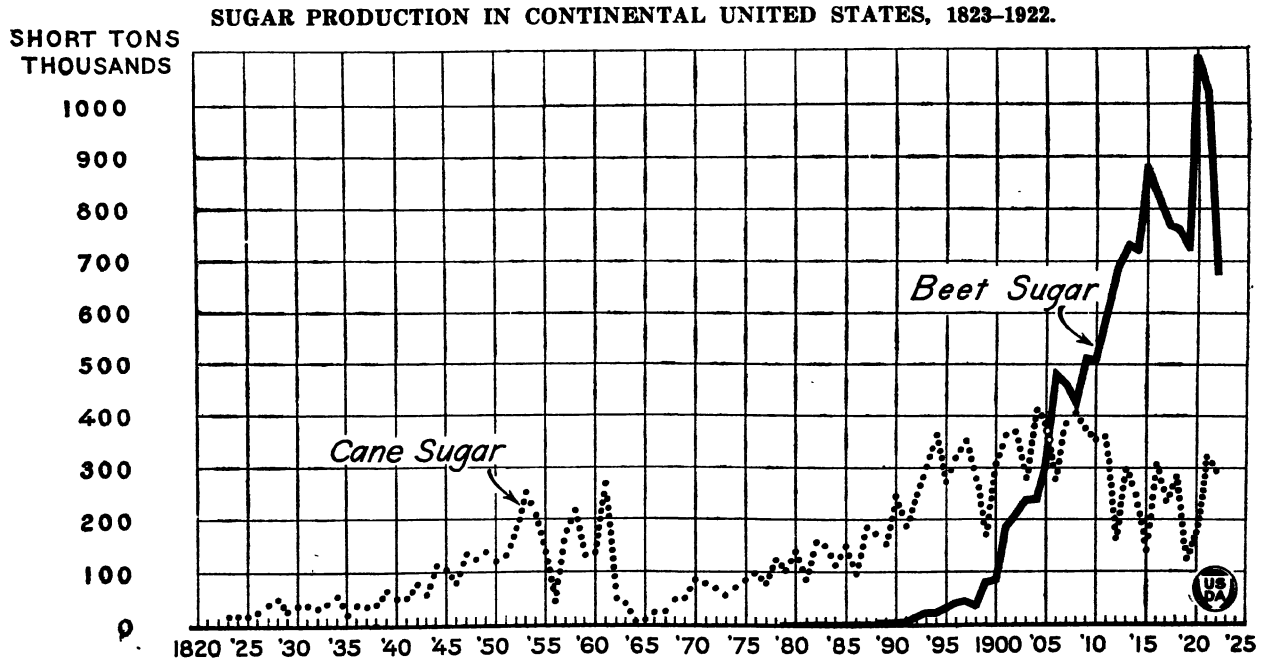


FIG. 5.—Cane-sugar production in the United States, which began near the close of the eighteenth century, has continued with many ups and downs until the present time. In 1879 beet-sugar production became established in the United States on a commercial scale and now far exceeds cane sugar in importance.

In our insular possessions sugar-cane culture is relatively more important than in the continental United States, but as it is impossible to cover adequately within the scope of this paper all of the many features peculiar to different regions, the detailed discussion will be limited to the industry as it is carried on at home (fig. 3). Our sugar-beet industry is confined entirely to continental United States.

Practically the only point of similarity between sugar cane and sugar beets is the fact that both plants at maturity contain a high per cent of sucrose or "cane sugar." The area devoted to these two crops is widely separated owing to fundamental differences in the climatic requirements of the plants. The practices employed in growing the crops are likewise radically different, and even the methods of recovering the sugar at central factories or mills, while alike in some respects, are dissimilar in essential details. In view of these facts, the two crops will be discussed separately.

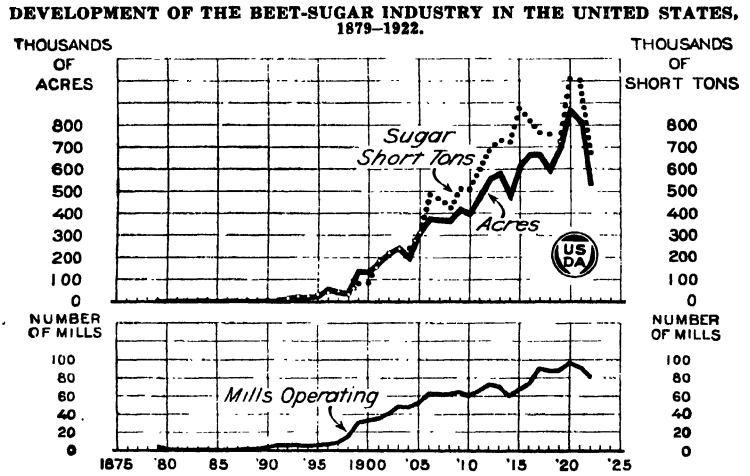


FIG. 6.—The development of the beet-sugar industry in the United States has been rapid since its establishment in 1879. The production has increased more rapidly than the acreage, and both more rapidly than the number of factories.

Factors Influencing Sugar-Cane Culture.

As sugar cane is a tropical plant, grown in the United States somewhat beyond its natural climatic zone, it is here more sensitive to climatic conditions than in the Tropics. While it grows on a variety of soils, they must possess definite characteristics for successful cane culture. Other factors of importance are topography, water supply, drainage, and the presence of injurious insects and diseases. Factors essential for profitable production are a supply of satisfactory labor, close proximity to the central mill, good roads, and railroads. The price of labor, and frequently of land also, is normally higher in the United States than in tropical countries, so that the closest attention must be given to the cost of production. Since the growing of sugar cane is usually the principal and often the only enterprise on the farm or plantation, the sugar-cane grower is more seriously affected by

changes in market price of sugar and changes in the factors influencing costs than the sugar-beet grower, who usually grows several other crops. These factors will be briefly discussed in the following pages.

Effect of Climatic Conditions on Sugar-Cane Production.

Sugar cane requires a uniformly high temperature, ample sunshine, and a large and constant supply of moisture to keep the plants growing rapidly. At any time up to harvest, cool, cloudy, or dry conditions will reduce the tonnage. The optimum rainfall for the crop in Louisiana is about 60 inches. The more nearly the weather approaches humid tropical conditions, such as heavy precipitation followed almost immediately by bright sunshine rather than a succession of overcast, cool days with drizzling rain, the better will be its effect on the rapidly growing crop. Practically continuous sunshine is indispensable always, but irrigation water may be substituted for

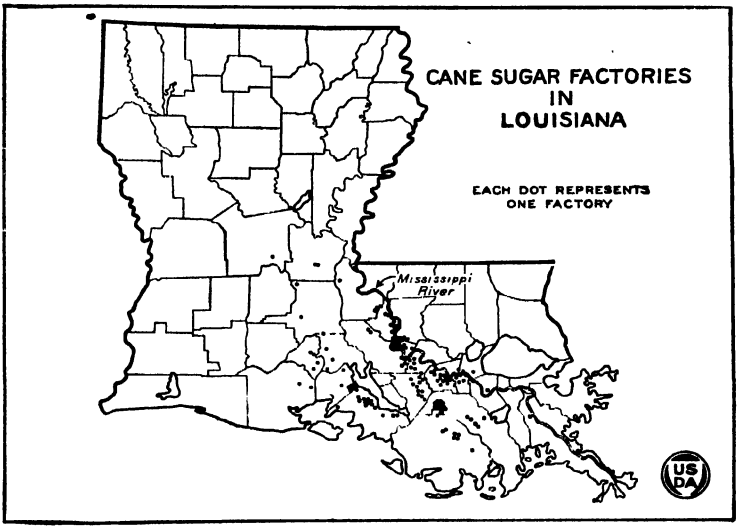


FIG. 7.—Cane-sugar production in the United States is confined almost entirely to the subtropical Mississippi Delta district of southern Louisiana. A small amount of sugar is produced annually in Texas, and three sugar-cane mills have been erected in Florida.

rainfall in some localities. For ripening, sugar cane is benefited by dry and cooler weather and a shortening of the days or periods of sunshine.

In the sugar-cane district of Louisiana the summer temperature averages 81° F. and the frost-free season is over 250 days. As sugar cane is cut in an immature condition in Louisiana, the longer it is left standing, the higher the sugar content. Growers formerly suffered much loss from the fall freezes, but with the present excellent warning service cane is allowed to stand until a forecast of a minimum temperature of about 26° or 27° F. is issued by the Weather Bureau. A large force of men is then put in the fields and all of the seed cane and as much of the mill cane as possible is windrowed. Sometimes a warning of damaging temperatures will result in windrowing of cane valued at over $10,000,000.

In competition with tropical cane-producing countries, Louisiana is at a disadvantage in many respects, not the least of which is the alternation of growing and dormant seasons. The tropical planter is free from the heavy expense involved in protecting the seed cane and the mill cane from frost damage, which causes diminished germi-

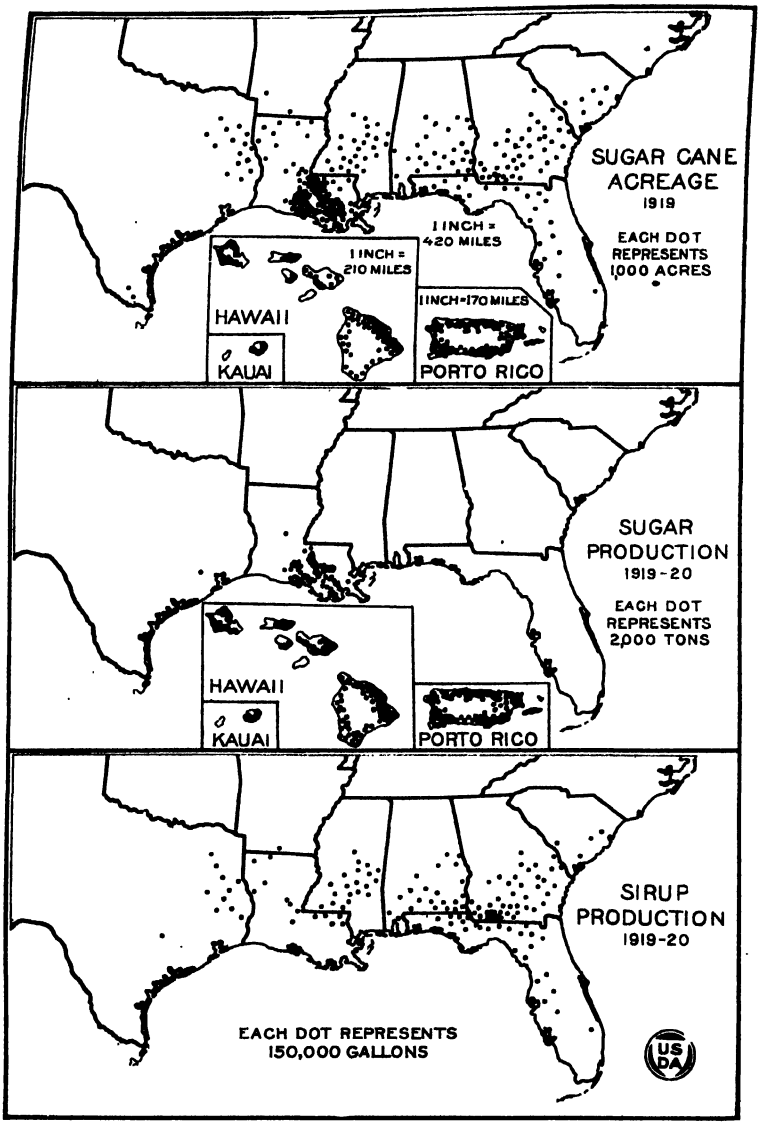


FIG. 8.—Sugar cane is grown in eight of the Southern States, much the largest acreage being Louisiana, with Georgia, Alabama, Mississippi, Florida, and Texas following in the order named. Of the cane sugar produced in this country over 95 per cent is made in Louisiana. The balance of the cane grown in the Southern States is used almost exclusively for sirup production. (Maps of Hawaii and Porto Rico are on a larger scale than that of the United States. Kauai is one of the Hawaiian Islands.)

nation of the former and inversion or "souring" of the latter. Furthermore, on account of the frost hazard in Louisiana harvesting time becomes a high-pressure period for the labor, since the planting or windrowing must be done concurrently with the cutting, transporting, and milling. In most tropical countries the necessity for immediate planting is not so urgent, in fact planting often extends over a period of five or six months. In countries like Java and Formosa, where the "seed" is obtained from a crop of immature cane grown specially for the purpose, planting is done before the mills begin to grind and these two operations are therefore entirely divorced. This plan is impracticable in Louisiana for the obvious reason that planting would need to begin so far in advance of harvesting for the mill that the cane would sprout and be winter-killed. A portion of the crop is planted in the fall in advance of grinding but the planting material is mature and dormant cane. Until practical labor-saving devices are perfected, the harvesting season in Louisiana will continue to be a time when even the best efforts of all hands fall short of accomplishing the many tasks in a satisfactory manner.

Thus it is seen that climate is the principal limiting factor which restricts the successful production of sugar to certain well-defined areas in the United States. These areas are southern Louisiana, southeastern Texas, and southern Florida. Up to the present, the industry is comparatively unimportant in the two latter States (figs. 7 and 8) but an attempt is being made to promote sugar production in Florida.

Growing sugar cane for sirup is not so restricted by climate, owing to the fact that the noncrystallizable sugars which are present in immature cane are desirable in sirup. Cane is grown for this purpose in the majority of the counties in Florida, the eastern half of South Carolina, the southern half of Georgia, Alabama, and Mississippi, central and northern Louisiana, and eastern Texas.

Sugar-Cane Soils.

Sugar-cane growing for sugar manufacture is confined almost altogether to the lower Mississippi Delta region of Louisiana, where, in addition to the long frost-free season, the soils are more suitable than elsewhere in the United States. The Sharkey clay in its better drained phases is the principal sugar-cane soil in the sugar-producing area. Other important sugar-cane soils are the silt loam, silty clay loam, and clay members of the Iberia series, and the fine sandy loam and silt loam of the Olivier series. These are all soils of high natural fertility and have nearly flat surface features. Similar soils occur very extensively farther north in Mississippi and Arkansas, but the growing season there is considered too short for maximum yields of sugar cane. Nearly all of these soils are very retentive of moisture, a feature of considerable importance for the sugar-cane plant, which during its period of rapid growth demands large quantities of water. Light soils and sandy soils are quite unsuited for the production of sugar cane unless they are irrigated and heavily fertilized.

In addition to high natural fertility and water-retaining capacity of the top soil, it is essential that the subsoil permit rapid drainage. A stiff, impermeable clay subsoil, particularly if near the surface, holds the water so that the plants will suffer from lack of aeration.

On some soils sugar cane will tolerate flowing surface water for long periods, but when the water is standing cane is more quickly injured. The soils of southern Louisiana are almost ideal for sugar-cane growing, a fact which compensates in some measure for its somewhat unsuitable climate. In contrast to these alluvial soils of the Mississippi Delta, soils of volcanic origin are extensively used for sugar-cane production in many parts of the world, notably in Java and Hawaii. With irrigation and intensive fertilization such soils sometimes yield a very high tonnage of cane.

Of considerable interest is the recent attempts to utilize the muck and peat soils of the Florida Everglades for growing sugar cane. The better-drained muck soils, found mostly near Lake Okeechobee, support a very rank growth of cane, but it remains to be seen whether this luxuriant vegetative growth will yield juices rich in cane sugar over a series of years. No doubt slow maturing varieties of cane will eventually be found more appropriate for these highly productive muck soils. The peat or "saw-grass" land, of which the bulk of the Everglades is formed, has not, up to the present, shown promise by the methods now employed.

The small patches of sugar cane for sirup making in the Gulf States are planted mostly on soils naturally very productive, such as alluvial lands along streams, depressed areas where the soils are dark, and the more fertile uplands. It is generally known, however, that a lighter colored and a better quality sirup is produced from cane grown on light-textured, well-drained soils, such as the sandy loam and fine sandy loam types of the Norfolk, Tifton, and Kalmia series.

Drainage and Irrigation of Cane Lands.

The high proportion of clay in the alluvial soils of the Mississippi Delta prevents a rapid downward percolation of water, and makes the closest attention to proper drainage a matter of great importance. Drainage is accomplished by means of open ditches which are wasteful of land and expensive to maintain, but owing to the character of the soil and the absence of sufficient fall it is very difficult to prevent tile drains from silting up. It would be almost impossible to overdrain the plantations, and improper balance of water and soil is usually traceable to errors in the direction of inadequate drainage. The frequent torrential downpours must not be allowed to accumulate and stand on the fields, a condition which is sometimes due to inadequate ditches, but more often to neglect in keeping existing ditches clean and in working order.

Notwithstanding the fact that irrigation plants could be installed on Louisiana plantations perhaps more cheaply than in almost any other cane region, many planters are content to rely on rainfall and are reluctant to make the necessary investment in pump, syphon, and irrigation ditches to raise the water over the levee and distribute it over the fields. Where irrigation has been employed in Hawaii, Java, Formosa, Egypt, British India, Peru, Mauritius, and southern Porto Rico, it has almost invariably been found to pay. Of course, in many places irrigation is absolutely essential owing to arid conditions, but even where rainfall is ample in annual volume, but unevenly distributed, the certainty of providing water at critical times is sufficient justification for providing irrigation where the outlay is

not large. Since about 85 per cent of subnormal crops in Louisiana are attributable to drought, the benefit to be derived from irrigation is apparent.

Owing to the immensity of the undertaking, the drainage of the Everglades has not advanced to the point where immunity from inundations has been attained. It is hoped that this danger will be overcome, as work on the great drainage canals is progressing steadily. These canals are expected to furnish a source of water during periods of drought, and here, as well as in Louisiana, the flat character of the land offers no unusual difficulty in the operation of either drainage or irrigation systems, once the proper water level is established and maintained. Irrigation is not employed in the small scale operations in connection with growing cane for sirup.

Sugar-Cane Varieties in the United States.

The principal varieties of sugar cane planted in Louisiana are the Louisiana Purple, Louisiana Ribbon, and D-74, the last being an improved seedling variety of erect habit obtained in Demarara by germination of the minute seeds occasionally produced by some varieties of cane under the proper conditions. All varieties at present grown in the South on a large scale for manufacture of sugar are of the wide-leaf, thick-stalk, and relatively soft and juicy type, belonging to the species *Saccharum officinarum*. Up to now these varieties have given reasonably satisfactory results, but it has become increasingly apparent during the past few years that production is declining in some districts on account of susceptibility to disease. Considerable apprehension was caused during the winter of 1922–23 on account of an unusual degree of seed-cane deterioration caused by rot-producing organisms, and increased infection of the growing plants by the organisms causing root disease and by "mosaic" has been very noticeable. The varieties now grown are neither immune to these diseases nor very tolerant of the injurious effects caused by them. Varieties which are immune, or at least resistant to root disease and mosaic, are being grown in this country experimentally and may prove to be acceptable for commercial sugar production, but this point has not yet been demonstrated.

In growing cane for sirup on the numerous and scattered one and two horse farms of the Gulf and adjoining States, a slender-stalk type of cane has lately come into prominence. Varieties of this type are similar to the Uba, grown in Natal for sugar manufacture. The stalks are intermediate in size between those of *Saccharum officinarum* and the so-called Japanese forage cane. These varieties of the Uba type probably were originally cultivated in southeastern China, and for convenience should be called "Chinese" canes. The Cayana–10, grown in Georgia and Florida, is of the Chinese type. The Chinese canes are, as a rule, slow maturing and in our climate have not up to now been used to any great extent for sugar production, owing to the presence in the immature plants of relatively large percentages of other sugars (invert sugar) which tend to retard crystallization of cane sugar. For sirup production, however, the performance of Chinese varieties in comparison with varieties of *S. officinarum* indicates that certain advantages may be claimed for them.

1. In producing the first crop, i. e., the plant-cane crop, the planting expense for seed cane is a very large item for the large-stalk varieties and only a moderately large item for the Chinese varieties. However, the harvesting and grinding expenses for Chinese varieties greatly exceed those for the large-stalk varieties.

2. The yields from the Chinese varieties exceed those from the large-stalk varieties, especially in the case of the stubble, or ratoon, crops. The yields from the large-stalk varieties rapidly drop off after the first year, and the third crop (second stubble crop) usually ceases to be profitable. With the slender-stalk varieties of the Chinese type the yield of the first stubble crop is usually as high as that of the plant-cane crop, and sometimes considerably higher. The second stubble crop, if well cared for, usually yields about as much as the plant-cane crop.

3. The Chinese varieties are either immune or highly resistant to mosaic and to root disease, while the large-stalk varieties in common use are seriously affected by both of these maladies.

The selection of proper varieties of cane for either sugar or sirup is of utmost importance to the planter, but unfortunately it is a point which usually does not receive proper consideration. Often existing varieties do not meet the requirements. This is a task for the plant breeder, and will be briefly discussed under "Improvement of sugar plants by breeding and selection," page 203.

Practices and Labor Requirements in Growing and Transporting Sugar Cane.

The propagation of sugar cane differs from that of most field crops in that the planting material consists of sections of the stalk of the cane. This material required for planting constitutes a considerable portion of the previous crop, and thus involves a much larger planting expense than is required for most other field crops. Furthermore, in the United States and other countries in the temperate zones, a much greater amount of planting material must be used than in tropical countries because of deterioration during the dormant season.

The cane plant is a perennial grass. Where conditions are favorable the plants will sprout up from the roots after harvest for an indefinite number of years, depending on favorable climate, freedom from disease, and renewal of plant food. These successive crops secured without planting are called "ratoon" or "stubble" crops. In Louisiana the "plant" cane, or crop arising from the planting of seed cane, yields a higher tonnage than the succeeding crop of first stubble. It is not customary to permit a crop of second stubble to grow, although it is sometimes done. Due to the elimination of a large percentage of the stools by disease and other causes, second stubble yield a very thin stand. The heavy replanting necessary for filling of the empty spaces is not practicable, since it would result in a ragged or uneven stand and would interfere with the accepted practices for the renewal of plant nutrients by means of green manures. Small patches of cane on virgin soil in southern Florida have been known to ratoon for 10 years or more. In commercial plantings on a large scale investigation usually shows that the fields claimed to have been ratooned for 10 or 20 years have been replanted

to such an extent that hardly any of the original plants remain. Thus, even in the Tropics on virgin soil of high fertility, it is to be expected that the original plants will gradually disappear, owing to the accumulation of disease organisms and insect pests, the drain on mineral nutrients, and periods of unfavorable weather.

Planting the Cane.

Sugar cane in Louisiana is planted either in the fall or in the spring. For fall planting, the preparation of the land, or bedding, generally begins in late August and continues through the fall. It is temporarily suspended, either wholly or in part, during the latter half of September in order to harvest the corn, hay, and such other feed crops as have been produced. Planting begins about October 15 and continues unabated until the harvest or grinding season begins, when all hands and mules are used to rush the cane to the mills before freezing weather arrives. It is thus evident that there is considerable conflict in the demand for labor in the fall between the planting of cane and the harvesting of cane for the factory.

For this reason spring planting must, from force of circumstances, be resorted to in many cases even though it is slightly more expensive and entails some very disagreeable field labor, due to a greater amount of rainfall at this season. There are some lands which, because of poor drainage or unusual soil conditions, are unsafe for fall planting and so must be spring planted. Seed cane is very susceptible to injury if fall planted in soil which is either too wet or too dry. If planted in soil which is too wet there is danger of "wet" rot, while if the soil is too dry, the seed cane will dry out and shrivel, thus lowering its vitality and making it more subject to decay from fungous invasion. This holds true whether cane is fall planted or windrowed for spring planting. The advocates of spring planting claim an advantage in that the cane taken from the windrow can be examined and the inferior canes discarded before planting, thus making possible more perfect stands than are obtained when cane is planted in the fall.

The cane is not thoroughly mature when fall planting begins, but because of a desire to get as much planted as possible before grinding commences there is a tendency to advance the date as far as can safely be done. Especially has this been true during recent years because of the labor shortage.

TABLE 3.—*The operations commonly performed in preparing land for planting of cane, together with the acres covered per day and the man and mule labor required per acre.*[1]

Operation.	Men.	Mules.	Acres per day on—		Days per acre.			
					Clay soil.		Sandy soil.	
			Clay.	Sand.	Man.	Mule.	Man.	Mule.
Cap off	2	4	9	10	0.22	0.44	0.20	0.40
Mold, 4-furrow	1	2	2	2.5	.50	1.00	.40	.80
Harrow	1	2	8	10	.12	.25	.10	.20
Plow drains	1	2	10	12	.10	.20	.08	.17
Shovel drains	1	.....	10	12	.10	.....	.08	.....
Total man and mule labor, in days per acre	.....	.....	.....	.....	1.04	1.89	.86	1.57

[1] Average, man 0.95 day; mule 1.73 days per acre.

There is little difference in either man or mule labor required per acre or unit for cultivating and harvesting sugar cane, whether the crop be spring or fall planted. Because of variations in soil types, there is, however, some difference in the labor required in caring for the seed cane, the sandy soil adjacent to streams being easier to work than the stiffer clay soils lying farther inland. In caring for the seed cane the requirements for spring planting average 90 per cent greater for man labor and 58 per cent greater for mule labor than the labor requirements for fall planting. In the preparation of the seed bed there is 21 per cent more man labor and 20 per cent more mule labor on the clay than on the sandy land. Presuming that half the cane crop is grown on sandy and half on heavy soil the average amount of labor required for this class of work will be for man labor 0.95 day and for mule labor 1.73 days per acre (Table 3).

Planting is performed with two crews of laborers, one stripping and cutting the seed cane and the other planting. The planting is done

PLANTING SEED CANE IN GEORGIA.

FIG. 9.—Commercial sugar-cane seed consists of sections of cane stalks, which are laid in furrows and later covered by means of a plow or other suitable implement.

by men with 2-mule plows opening the rows, passing up and down the row throwing the soil to each side, or perhaps with small middle busters doing the same work by passing once across the field; another man follows with a team and plow or block finishing up the furrow. The canes are usually thrown directly from the wagon into the furrow by two or three men called "droppers" (fig. 9). Following them are the "whackers," who cut or whack the crooked or extra long stalks into a number of pieces and see that the seed stalks lie straight in the bottom of the bed. Whacking is done not only to prevent the plows in the spring cultivation from catching the ends and ripping the entire cane from the row, but also to check the destruction of the seed by the cane borer. It is claimed by some

planters, however, that this means of checking the cane borer is offset by the added opportunity for entrance and encroachment of fungous and bacterial diseases. The whacking is performed by women, girls, or boys equipped with cane knives. After it has been whacked the cane is covered by throwing four furrows over each row. When the soil is dry, the rows are rolled with either a 2 or 3 horse roller in order to retain the soil moisture. The last of the planting operations is the opening of the quarter drains, a system of open ditches, which are necessary because of the heavy rains of this region.

The fall planting of cane, including stripping and cutting of the seed cane and hauling it to the place of planting, requires, on the average, 11.21 man and 6.8 mule days per acre. Of this amount 3.6 man days may be charged as harvest labor performed on the crop furnishing the seed, and 7.61 man and 6.8 mule days as labor directly to planting operations.

TABLE 4.—*The size of crews and duty of each crew for work on seed cane and fall planting.*

Operation.	Crew.		Tons per day.	Acres per day.	Days per acre.		Total days per acre.	
	Men.[1]	Mules.			Man.	Mule.	Man.	Mule.
Harvesting seed cane:								
Strip and cut	3	.....	10	0.83	3.60	.....	[2] 3.60	.....
Transporting seed cane:								
Load and haul	4	4	10	.83	4.80	4.80	4.80	4.80
Planting operations:								
Open row (2 times to row)	1	2	.....	5	.20	40	.....	.....
Open row (1 time to row)	1	2	.....	10	.10	.20	.....	.....
Lay and whack	4	.....	10	2.5	1.60	.....	.....	.....
Cover (4 times to row)	1	2	.....	2.5	.40	.80	.....	.....
Roll	1	3	.....	24	.04	.13	.....	.....
Plow and shovel drains	2	2	.....	12	.17	.17	.....	.....
Water boy	1	1	.....	3.3	.30	.30	2.81	2.00
Total per acre—3 groups o loperations	.....	.....	.....	.....	.....	.....	11.21	6.80

[1] The terms "men" and "man" are used in showing labor requirements as a composite including men, women, and children.

[2] This labor is charged to the crop furnishing the seed. It is shown here as a part of the labor actually involved in the propagation of sugar cane.

Seed cane for spring planting is wintered in windrows or mats. The method of windrowing is usually to cut and throw the cane from two rows into a center furrow and then cover with two furrows to the row. Mats are similar to windrows except that more than two rows are thrown together. Spring planting is usually done in January, February, and March, and sometimes even as late as April. The preparation of the seed bed, as well as the planting of spring cane, is practically the same as for fall planting. The only real difference is the operation of removing the seed cane from the windrows. This is usually done by first scraping the dirt off with a plow, stubble shaver, or small road-grading machine, and then pulling the seed cane out of the bed with one mule hitched to a two-hooked implement called a monkey.

TABLE 5.—*The size of crews and duty of each crew for work on seed cane and spring planting.*

Operation.	Crew.		Tons per day.	Acres per day.	Days per acre.		Total days per acre.	
	Men.[1]	Mules.			Man.	Mule.	Man.	Mule.
Harvesting seed cane:								
Cut and lay in windrows	3	.....	15	1.25	2.40	.....	[2] 2.40	.....
Storage operations:								
Fall—								
Cover (2 times to row)	1	2	.....	5	.20	0.40	.....	.....
Hoe, cover butts and tips	1	.....	.....	5	.20	.....	.....	.....
Plow and shovel drains	2	2	.....	12	.17	.17	.....	.....
Spring—								
Remove soil cover	1	2	.....	5	.20	.40	.....	.....
Pull canes with monkey	1	1	8	.75	1.33	1.33	.....	.....
Shuck cut	2	.....	8	.75	2.67	.....	.....	.....
Load and haul	4	4	8	.75	5.33	5.33	10.10	7.63
Planting operations:								
Open row (2 times to row)	1	2	.....	5	.20	.40	.....	.....
Open row (1 time to row)	1	2	.....	10	.10	.20	.....	.....
Lay and whack	4	.....	8	2	2.00	.....	.....	.....
Cover (4 times to row)	1	2	.....	2.50	.40	.80	.....	.....
Plow and shovel drains	2	2	.....	12	.17	.17	.....	.....
Water boy	1	1	.....	3.3	.30	.30	3.17	1.87
Total days per acre—3 groups of operations	.....	.....	.....	.....	.....	.....	15.67	9.50

[1] The terms "men" and "man" are used in showing labor requirements as a composite including men, women, and children.

[2] This labor is charged to the crop furnishing the seed. It is shown here as a part of the labor actually involved in the propagation of sugar cane.

Cultivation.

The cultivation of plant cane extends through the spring and summer, from March to July for the native Louisiana cane, and into August for the variety known as D-74. With the latter variety, because of its upright habit of growth, the rows do not close early and shade the centers well, and hence later cultivation and hoeing are required in order to maintain soil moisture and prevent weed growth. With the exception of minor differences in cultivation, due to variety planted, there is very little difference in the culture of spring and fall planted cane.

TABLE 6.—*The size of crews, and duty of the crews, necessary in cultivating a crop of spring or fall planted cane.*

Operation.	Times done.	Crew.		Acres per day.	Days per acre.	
		Men.	Mules.		Man.	Mule
Bar off (2 times to row)	2	1	2	5	0.40	0.80
Drains:						
Plow	1	1	2	12	.08	.17
Shovel	2	1	.....	12	.17	.....
Hoe and scrape	1	4	.....	1	4.00	.....
Harrow middles (1 time to row)	1	1	2	10	.10	.20
Re-bar off (2 times to row)	1	1	2	5	.20	.40
Shovel drains	1	1	.....	10	.10	.....
Mold (2 times to row)	3	1	2	5	.60	1.20
List middles	1	1	2	10	.10	.20
Hoe and grass out	1	4	.....	1	4.00	.....
Drains:						
Plow	1	1	2	10	.10	.20
Shovel	.....	1	.....	10	.10	.....
Cultivate:						
Disk (1 time to row)	5	1	2	8	.62	1.25
Shovel (1 time to row)	2	1	2	8	.25	.50
Shovel drains	5	1	.....	12	.42	.....
Plow middles (3 times to row)	1	2	2	2½	.80	.80
Plug drains 1 cent per row, $1 acre, contract	.....	.....	.....	.....	.....	.....
Total days of cultivation labor on plant cane	.....	.....	.....	.....	12.04	5.72

With stubble cane there is no preparatory labor, the only field operations being tillage and harvesting. In the cultivation of this cane most of the operations are the same as those used in the production of plant cane. There are, however, the additional operations of removing a part of the soil from above the cane roots, known as shaving the stubble, which is followed by an operation called digging, which loosens up the soil about the stubble. A specially constructed machine is used for each operation. The labor normally required in these operations, together with that of opening drains, is noted in Table 7.

TABLE 7.—*The operations of cultivation for stubble cane in addition to those for planted cane.*

Operation.	Times done.	Crew.		Acres per day.	Days per acre.	
		Men.	Mules.		Man.	Mule.
Shave stubble (1 time to row)	1	1	2	6	0.17	0.33
Dig stubble (1 time to row)	1	1	2	10	.10	.20
Shovel drains		1		12	.08	
Additional labor as shown for planted cane in Table 6					12.04	5.72
Total cultivation labor per acre for stubble cane, days					12.39	6.25

Fertilization and Rotation.

The fertility of the alluvial soils of the Mississippi Delta is maintained by the application of commercial fertilizers and by plowing in green manures. Approximately half of the cane grown in Louisiana receives fertilizer of some kind. The application of commercial fertilizers, when used, varies from 400 to 600 pounds per acre for plant cane and somewhat more for stubble cane. A part or all of the commercial fertilizer for plant cane is applied in the row at time of planting. Should only a part of it be applied at the time of planting, the rest is used as a side application after the first cultivation. Stubble cane is usually fertilized just following the first or second time it is barred off.

It is the intention of the cane planter to sow about one-third of his crop land to peas each year, in order to furnish a green-manure crop which will improve the texture and fertility of the soil and thus aid in maintaining the yield of cane. The land intended for peas is usually planted to corn in the spring and the peas sown between the corn rows at the last cultivation. The yield of corn is ordinarily low because the spacing of the rows is the same as that for cane, which is 5 or 6 feet, and the corn receives little attention owing to the labor requirement on cane, which comes at the same season. The advantages of planting corn are that its culture prepares the seed bed for peas, it produces a small amount of grain, it furnishes support for the peas, and the cornstalks, together with the pea vines, furnish considerable fall and winter pasture for the mules.

Frequently the nitrogen supplied by a crop of cowpeas is not quite enough to restore that removed by a plant-cane crop and one or two stubble crops. The deficiency is made up by applying nitrogenous fertilizers, usually in the form of cottonseed meal.

On the light textured soils of the sirup-producing sections heavier applications of fertilizers are made, often 800 to 1,800 pounds per

acre, except for the small patches of cane for which sufficient barnyard manure is available or for which the land is especially enriched by penning cattle on it previous to planting it to cane.

Ordinarily, peas in the cane-producing sections of Louisiana do not produce a seed crop but are turned under and followed by plant cane. Although occasionally some hay is removed from land planted to peas, it is believed that the cost of the seed peas may safely be considered a direct charge against the cane crop, since the value of the hay so obtained is seldom worth more than the cost of harvesting.

TABLE 8.—*The labor required per acre for hauling, mixing, hauling to the field, and distributing fertilizer when the rates of application are 400 to 600 pounds, per acre, respectively.*

Operation.	Crew.		Acres per day.		Days per acre.			
					At 400 lbs.		At 600 lbs.	
	Men.	Mules.	At 400 lbs.	At 600 lbs.	Man.	Mule.	Man.	Mule.
Haul to farm, 4 tons a day	2	2	20	13⅓	0.10	0.10	0.15	0.15
Mix and sack, 5.7 tons a day	2	.....	28	19	.07	.....	.10	.....
Haul to field	1	2	50	50	.02	.04	.02	.04
Distribute	4	8	50	50	.08	.16	.08	.16
Total labor, all distributed at one time	.....	.....	.....	.....	.27	.30	.35	.35
Total if put out in two applications	.....	.....	.....	.....	.37	.50	.45	.55

Harvesting Cane.

The usual harvesting operations are stripping the leaves from the stalk, topping the cane, cutting it at the ground, and hauling to the station or factory. The time required for these operations will vary with the yield, condition of cane, and the weather. The heavier yields will require slightly more labor per acre, but less labor per ton for harvesting. Harvesting of lodged or crooked cane will also retard operations. In many sections it is the custom now to let cutting and stripping out on contract at 50 cents per ton, while in others all this work is done by day labor.

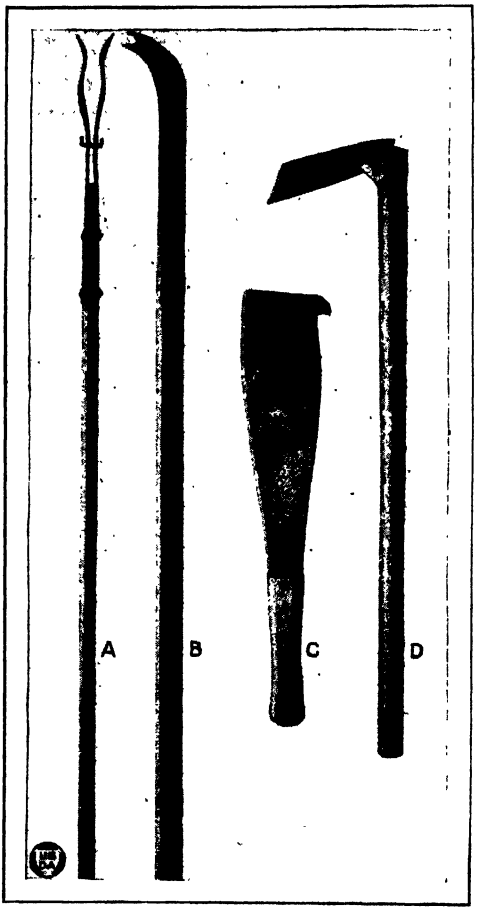
TABLE 9.—*Approximate labor requirements for harvesting sugar cane per acre and per ton with varying yields.*[1]

Operation.	Crew.		Labor requirements per acre.		Labor requirements per ton.			
					With yield of 12 tons per acre.		With yield of 17 tons per acre.	
	Men.	Mules.	Man days.	Mule days.	Man days.	Mule days.	Man days.	Mule days.
Strip, top, and cut	19	.....	7.17	.....	0.60	.....	0.42	.....
Hand load [2]	3	.....	1.14	.....	.09	.....	.07	.....
Haul	3	12	1.14	4.56	.09	.37	.07	0.27
Hoist and weigh [2]	3	1	1.14	.38	.09	.03	.07	.02
Water boy	1	1	.38	.38	.03	.03	.02	.02
All operations	29	14	10.97	5.32	.90	.43	.65	.31

[1] The labor requirements per acre do not change materially with increased yields, while, on a ton basis, the labor requirements per ton decrease as the yield increases.
[2] Mechanical loaders are now used on many of the larger plantations.
[3] Weigher, driver, and farkman.

Character of Implements and Labor Employed.

In the production of cane in Louisiana many special implements are used, including extra large plows and middle-breakers, high double cultivators, stubble shavers, and stubble diggers, and, on some plantations, mechanical loaders. Special hand tools of inexpensive design are used to do the harvesting (fig. 10). Where sugar cane is a minor crop, as is the case in the principal sirup-producing sections, the cultivating implements are practically the same as for other crops.



IMPLEMENTS FOR HARVESTING SUGAR CANE.

FIG. 10.—In harvesting sugar cane the leaves are first stripped from the stalk by using the back of a cane knife, C. Sometimes the special tool represented by A and B is used for stripping. The stalk is then topped and cut off at the surface of the ground with the cane knife. A hoe, D, may be used for the latter operation.

In this discussion, laborers are spoken of as men. It should be remembered, however, that large numbers of women, girls, and boys are employed on cane plantations, the girls and boys ranging in age from 15 to 18 years and drawing about the same wage as women. Such operations as stripping, cutting, hoeing, shucking, whacking, and carrying water are usually performed by this type of labor.

The size of the crews for planting and other operations may vary, depending on the acreage to be planted and the time available for the work. In this discussion the crews are treated on an acre basis. The number of mechanical appliances for handling cane also affects the size of crews. On some plantations the loading of wagons is accomplished with small hoisting machines mounted on trucks, together with a gasoline engine, the outfit being drawn about the field by four mules. The same machine, with somewhat different appliances, is sometimes used instead of a mule and monkey for pulling the seed cane from the windrow. Small road-grading machines are sometimes used for uncovering the windrowed seed cane and are also used for opening drain ditches. Trac-

tors have replaced mules on some plantations in the performance of operations where the draft is great and the growth stage of the cane and the condition of the soil will permit.

Total Labor Requirements.

Field investigations made on the 1922 sugar-cane crop in Louisiana show that an acre of fall-planted cane receiving no fertilizer required, on the average, 15.8 days of human labor and 9.45 days of mule labor from the time the seed stalks were put in the ground up to the time of harvest. The human labor consisted of men, women, and children. The harvesting operations, which include stripping, topping, cutting, loading, hauling, hoisting, and weighing, add 10.97 days of human labor and 5.32 days of mule labor for a 17-ton-per-acre crop, making a total of 26.77 days of human labor and 14.77 days of mule labor to grow and harvest fall-planted cane producing that yield. In order to make these figures comparable to those which follow on spring-planted cane, we must add the time required to load the seed cane and haul it to the place of planting. This will increase the man labor 4.8 days and the mule labor 4.8 days per acre, making a grand total of 31.57 days of human labor and 19.57 days of mule labor per acre.

TABLE 10.—*Summary of man and mule labor per acre for fertilized and unfertilized sugar cane.*

[Days of labor shown for cane harvested for the mill and for seed.]

Operation.	Cane for the factory.						Cane for seed.			
	17 tons per acre.				12 tons per acre stubble cane.		17 tons per acre plant-cane.[1]		12 tons per acre stubble cane.	
	Fall-planted cane.		Spring-planted cane.							
	Man.	Mule.	Man.	Mule.	Man.	Mule.	Man.	Mule.	Man.	Mule.
Storage, and transporting seed cane	4.80	4.80	10.10	7.63	.....	.....	7.45	6.21	.....	.....
Fitting land	.95	1.73	.95	1.73	.....	.....	.95	1.73	.....	.....
Planting	2.81	2.00	3.17	1.87	.....	.....	2.99	1.94	.....	.....
Cultivating	12.04	5.72	12.04	5.72	12.39	6.25	12.04	5.72	12.39	6.25
Harvesting	10.97	5.32	10.97	5.32	10.97	5.32	[2] 3.00	.....	8.40	4.80
Labor per acre, unfertilized cane	31.57	19.57	37.23	22.27	23.36	11.57	26.43	15.60	20.79	11.05
[Addition for fertilized cane.]										
Labor per acre, unfertilized cane	31.57	19.57	37.23	22.27	23.36	11.57	26.43	15.60	20.79	11.05
Applying fertilizer	.45	.55	.45	.55	.45	.55	.45	.55	.45	.55
Labor per acre, fertilized cane	32.02	20.12	37.68	22.82	23.81	12.12	26.88	16.15	21.24	11.60

[1] Average fall and spring plant.
[2] Composite of stripping and cutting for fall plant and cutting and laying in windrow for spring plant. Loading and hauling included in storage and transporting seed cane.

Cane planted in the spring required 16.16 days of human labor and 9.32 days of mule labor to plant and cultivate up to the time of harvest, if no fertilizer was used on the crop. Harvesting a 17-ton crop of spring-planted cane added 10.97 days of man labor and 5.32 days of mule labor, making a total of 27.13 days of man labor and 14.64 days of mule labor per acre of spring-planted cane without fertilizer. To this should be added the labor of windrowing the seed cane in the fall and removing it from the windrows in the spring, which can be called storage operations. These operations add 10.1 days of man labor and 7.63 days of mule labor, making a grand total of 37.23 days of man labor and 22.27 days of mule labor to produce and harvest an acre of unfertilized spring-planted cane.

It required 12.39 days of human labor and 6.25 days of mule labor to cultivate an acre of stubble cane. To harvest a 12-ton crop of stubble cane required 10.97 days of human labor and 5.32 days of mule labor per acre. The total human labor per acre on unfertilized stubble cane throughout the entire season was 23.36 days, while the mule labor totaled 11.57 days per acre.

If fertilizer was used, approximately one-third of a day of man labor and a like amount of mule labor per acre was required, whether the cane was fall planted, spring planted or stubble (fig. 11).

DAYS OF MAN LABOR PER ACRE SPENT ON FIELD OPERATIONS OF PRODUCING SUGAR CANE, LOUISIANA, 1922.

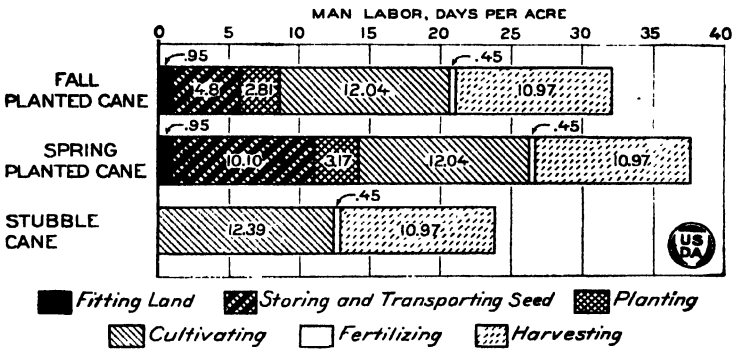


FIG. 11.—The production of spring-planted cane required over 5 days more man labor than fall-planted cane, and stubble cane about 8 days less labor. It required almost twice as much labor to store, transplant, and plant spring cane as it did fall cane. Stubble cane required a little more labor for cultivation on the average than plant cane, but somewhat less labor for harvesting.

Rates for Labor.

Customarily, laborers are employed on cane plantations on a daily wage basis, the amount of pay being governed by the kind of work that is performed. Before and after the harvesting and grinding season, field work is handled by local help that works on the plantation throughout the year. During the harvesting and grinding season, there is a large influx of additional labor that helps in the heavy rush of work which comes at that time. In general, all the laborers on the cane plantations during this rush period receive a daily wage from 25 to 75 per cent higher than wages paid during

the other seasons. In Table 11 is shown the trend of daily wages paid during the past seven years for laborers during the grinding season (which corresponds to the harvesting season) and the remainder of the year.

TABLE 11.—*Showing the prevailing plantation rates for labor through a series of years, grouped as to class and season.*[1]

Year.	During grinding.			Before and after grinding.		
	Men.	Women.	Drivers.	Men.	Women.	Drivers.
1916	$1.25	$1.00	$1.50	$0.80	$0.60	$0.90
1917	1.25	1.15	1.50	.90	.70	1.10
1918	2.25	1.75	2.50	[2] 1.00	[2] .70	[2] 1.40
1918				[3] 1.25	[3] .80	[3] 1.50
1919	2.25	1.75	2.50	1.25	.90	1.50
1920				[2] 1.40	[2] 1.00	[2] 1.65
1920	2.25	1.75	2.50	[4] 1.50	[4] 1.10	[4] 1.75
1920				[5] 1.75	[5] 1.25	[5] 2.00
1921	1.25	1.00	1.50	1.00	.80	1.25
1922	1.25	1.00	1.50	1.00	.80	1.25

[1] Perquisites granted laborers not included.
[2] January to April.
[3] April to time of grinding.
[4] April to May.
[5] May to time of grinding.

Cost of Production.

In the study of cane production and in showing labor used in the several operations it has been considered that harvest labor should

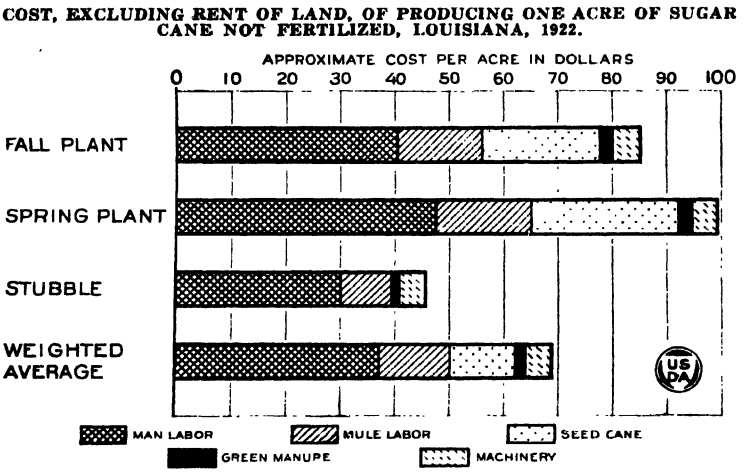


FIG. 12.—The cost of producing an acre of sugar cane is high compared with other field crops. The large amount of hand labor required is largely responsible for this. In addition, the cost of seed cane is particularly high in the United States. The cost of labor does not include value of perquisites. Sometimes rent of cabin, land for garden, wood for fuel, etc., are supplied free. Their values vary on different plantations and at different times.

only include the labor necessary to bring the cane to the point of acceptance by the factory, whether it be the field hoist, the barge, or by wagon direct to the factory hoist. In this discussion, therefore, the labor in the factory has not been considered. The total cost of the manual labor necessary to produce and deliver cane to the factory

is the largest single item of expense, and during 1922, for planted cane, constituted from 42 to 47 per cent of all expenditures, excluding the rent of land. In the production of stubble cane manual labor made up from 53 to 58 per cent of all expenses in production, excluding land rent. As an average for all cane upon a plantation which consists of approximately one-fourth fall planted, one-fourth spring planted, and one-half stubble cane, manual labor made up in 1922 from 48 to 52 per cent of all costs other than land rent (fig. 12).

From the limited number of observations made in Louisiana upon the crop produced in 1922 the following table upon direct cost of production has been drawn up. Such items of indirect cost as overseeing, loss in procuring and holding labor, perquisites given, and office expense are not included. The data cover the growing of approximately 4,000 acres of sugar cane.

TABLE 12.—*Average cost, excluding land rent, of growing and harvesting for the factory, 1 acre of sugar cane on individual plantations in Louisiana, 1922.*[1]

Item.	Fall plant.	Spring plant.	Stubble.	Weighted average.[2]
Man labor[3]	$39.46	$46.54	$29.20	$36.10
Contract labor	1.00	1.00	1.00	1.03
Mule labor[3]	15.66	17.82	9.26	13.00
Seed cane	21.60	27.00	.....	12.15
Green manure—peas	2.41	2.43	1.42	1.92
Machinery	4.96	4.96	4.96	4.97
Total—unfertilized	85.11	99.75	45.84	69.17
Fertilizer	4.34	4.34	6.17	5.23
Man labor for fertilizing	.56	.56	.56	.55
Mule labor for fertilizing	.44	.44	.44	.41
Total—fertilized	90.45	105.09	53.01	75.39
Average yield—tons	17	17	12	14.5
Cost per ton	$5.32	$6.18	$4.42	$5.08

[1] Exclusive of overhead supervision and interest on investment in land.
[2] Assuming one-fourth in fall-plant, one-fourth in spring-plant and one-half in stubble.
[3] Man labor at $1.25 per day and mule labor at $0.80 per day. Value of perquisites not included.

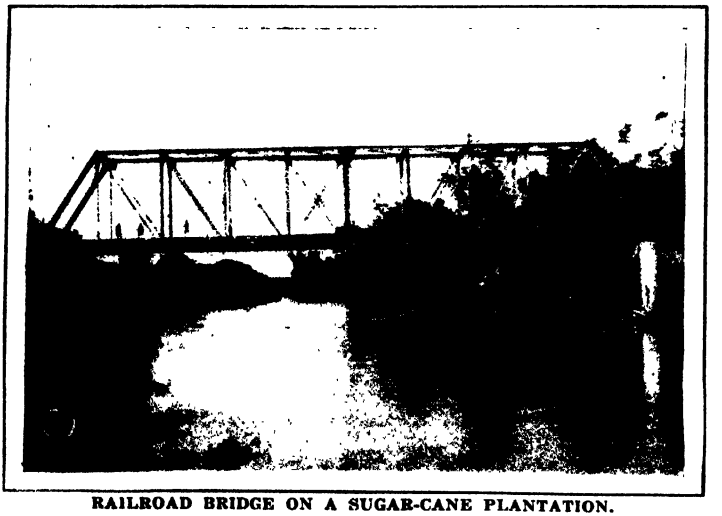
The labor and machinery costs in Table 12 include only that portion used in production, and do not include any factory labor or equipment. At the usual rates of planting it requires 4 tons of seed cane per acre for fall planting and approximately 5 tons of seed cane per acre for spring planting. To keep about half of the cane acreage in plant-cane each year consumes, therefore, a considerable portion of the crop. About 15 per cent of the total cane yield is used for seed each year.

Transporting the Cane to the Mill.

Sugar manufacture from cane in the United States in competition with other sugar-producing countries is feasible only by operating at high efficiency, and this is possible only by extensive operations, involving the investment of half a million or more dollars in the railroad and mill (figs. 13 and 16). To supply such a mill the cane must be the main crop on an extensive area, 5,000 acres or more, near the factory. The manufacture of sugar from cane is therefore an industry not adapted to sections where soil and climate are not well suited to making sugar cane the main crop. When the cane is ready

to harvest it must be cut, stripped, topped, and transported to the mill in the shortest possible space of time, and this requires a coordination of big-scale operations not approached by any other agricultural enterprise. The necessity for speed is urgent in Louisiana and other temperate zone countries, because of the danger of frost and the consequent inversion of cane sugar. In the Tropics, the same efficient transportation to the mill after cutting is necessary, because of the activity of ever-present microorganisms which cause inversion at a rapid rate in warm climates, once the cane has been cut and ceases to carry on its normal physiological functions.

These facts impose the necessity for organization of a transportation system and a rigid discipline in all related activities comparable in its efficiency to the service of supply in a modern army. Field superintendents receive their orders for cutting from the supervising field manager, who in turn must cooperate with the mill adminis-



RAILROAD BRIDGE ON A SUGAR-CANE PLANTATION.

FIG. 13.—The cost of building private railways is a large item of expense in sugar-cane production.

trator. If, for instance, the precrusher in the mill should break down, this intelligence must be communicated without delay to the remotest field where cane is being cut to prevent an accumulation of loaded cane trains in the mill railroad yards. The cut cane would spoil even after a short delay in milling operations. Roads must be maintained in condition to enable heavily loaded carts or wagons to pass from the fields to the railroad sidetracks in an orderly procession. The railroad traffic manager must keep the loaded cane trains moving to the mill and provide "empties" where needed, despite the traffic accidents which are bound to occur on the unballasted and sometimes portable tracks, which are used everywhere except for the main lines.

Among the factors mentioned at the beginning of this discussion was the necessity for close proximity of land to the mill. Economic operation demands that the fields be not too distant on account of

the time consumed in making long hauls, the extra fuel burned in making these hauls, and the extra investment in trackage and rolling stock necessary. The ideal arrangement is for the mill to be placed at the center of an approximately circular feeding area with the public railroad passing near the sugar-storage warehouse of the mill. This arrangement is often interfered with by local conditions, such as the presence of swamps, lakes, rivers, and land unavailable or unsuited for cane cultivation.

The Labor Situation.

The Louisiana planter is confronted with an emergency in the farm labor situation to-day. Sugar cane is a crop that requires a vast amount of hand labor. The sugar plantations of the South were originally worked by slaves. Since the Civil War the labor problem has in successive stages become more acute until at present it may be truthfully characterized as the problem for which, more than for any other, a solution is urgently needed. The labor conditions of to-day result from the competition between the northern manufacturer and the southern planter, and the planter is unable frequently to attract and hold labor in the face of inducements offered by the manufacturer. Migration from the southern farm to the northern factory has therefore been going on at an increasing rate for several years. No labor-saving machinery of sufficient practicability has come into use to compensate for this loss. The solution may lie in the direction of breaking up the plantation into small privately owned farms, as in the beet sections.

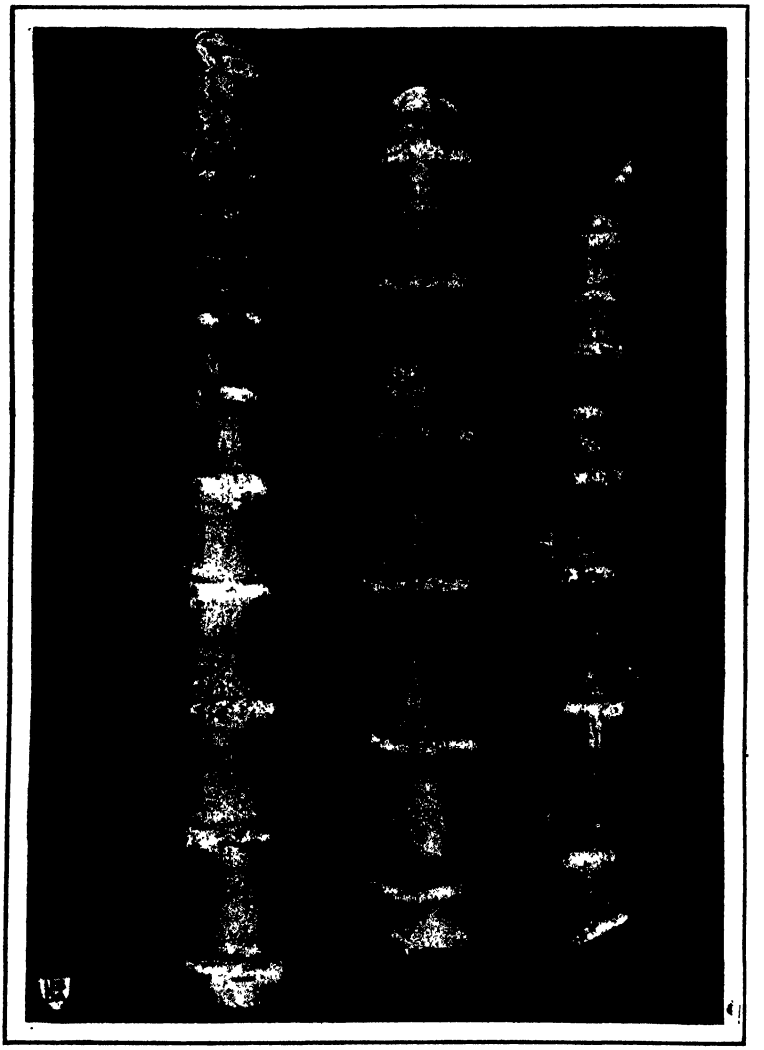
Moreover, Louisiana comes into competition with countries where labor is almost unbelievably abundant and cheap. While the wage scale in Cuba, Porto Rico, and other West Indian islands has advanced during the past few years, it is still below that in the United States. The Philippine laborer gets from one-fourth to one-half the wages of the southern negro, and the coolies of Java and Formosa, drawn from an almost inexhaustible supply, receive from one-tenth to one-fifth the amount paid in Louisiana. It should be stated, however, that this difference is compensated in some measure by the fact that Malay labor is not so efficient as our negro, and that the low price paid to the more capable Chinese coolies on Formosan plantations is partially offset by the poverty of their soils as compared with ours.

Diseases of Sugar Cane in the United States.

It is not possible in the limits of this article to mention all the fungous, bacterial, and other diseases of sugar cane reported as occurring in the United States. The presence of these diseases constitutes one of the hazards which confront the cane growers, coordinate in its effect with unfavorable weather or adverse economic conditions. Not all of the serious diseases of cane are yet present here, and it is to be hoped that owing to the quarantine regulations now in force, with the cooperation of American cane growers, certain cane diseases of other sugar regions will be excluded. Among the diseases not present here, which seriously curtail production or add to the cost of production elsewhere, are Sereh, Fiji disease, gumming disease, downy mildew, smut, and rust. Some of these destructive diseases have necessitated a complete change of varieties, impor-

tant changes in cultural practices, and minor modifications in milling methods.

On account of our temperate climate with its annual alternation of growing and dormant periods for the cane plant, it is possible to classify cane diseases into those which exert their greatest influence on the growing crop, and those which affect the seed cane during the winter while it is banked or lying in the ground. Injury due to the



EFFECT OF MOSAIC DISEASE ON STALKS OF A VERY SUSCEPTIBLE VARIETY OF SUGAR CANE.

FIG. 14.—Mosaic is one of the many infectious diseases of sugar cane in America. The injurious effect of mosaic is somewhat similar to the effects of soil poverty or drought; the slight stunting of the plants in many cases is overlooked by planters. In the illustration a healthy stalk is shown in the center for comparison.

latter type of disease is more readily computed than the former. The amount of seed cane necessary to obtain a good stand in this country, as compared with tropical countries, is an index of the injury caused by the disease organisms which work during the dormant period. In the Tropics, where the dormant period is almost negligible, 1½ tons of seed per acre will produce a good stand. In Louisiana 4 to 6 tons of seed are required, largely on account of destruction of "eyes" by various fungi and bacteria. Improved methods for storing the seed cane, and attention to the possibility of spread of infection in windrows, would certainly diminish this annual loss of 350,000 to 500,000 tons of cane.

Of the diseases affecting the growing crop, the root disease, the mosaic disease, and the leaf-spotting diseases may be mentioned. Root disease, in which the young root tips are invaded and killed by fungi, until the roots are so reduced as to be unable to supply the plant with nutrients or provide anchorage, is generally considered responsible for the failure of stubble crops here. The parasitic organisms survive in cane trash and soil of cane fields, so that direct methods of control are not practicable. Since some varieties, such as some of the P. O. J. seedlings from the Pasoeroean, East Java, Experiment Station are resistant to this disease, the root disease problem must eventually be solved by substitution of these or similar varieties of cane.

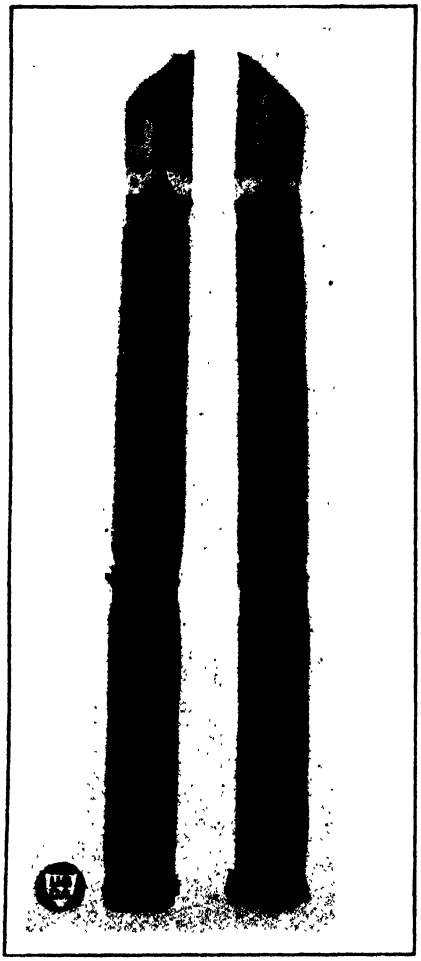
The mosaic disease is a good illustration of the effect of careless importation of sugar-cane varieties from foreign countries. This destructive disease, which affects corn, sorghum, and millet, as well as sugar cane, must have been introduced into the United States about 10 years ago. Careful records of its occurrence here, dating from 1919, when it was first observed in Louisiana, prove that it has spread from definite local points at an astonishing rate since that time. Mosaic disease causes destruction of the chlorophyl, or green coloring matter of leaves, and consequent stunting of the plants (fig. 14). Notwithstanding the efforts of the United States Department of Agriculture and State agricultural agencies, this disease has been practically ignored by cane planters everywhere, except in the peninsular section of Florida, where destruction of diseased plants, made compulsory by the Florida Plant Board, promptly and effectively stamped it out at the eight infected centers. Elsewhere, with the exception of a few small areas, the disease is now beyond control. Several varieties of sugar cane are known to be immune to it, however, and although the known immune varieties are not suitable for Louisiana, one of them is now being extensively grown in Georgia.

Insect Pests of Sugar Cane.

The primary insect pest of sugar cane in the United States is the sugar cane moth borer (*Diatraea saccharalis crambidoides*). As indicated by the name, the "borer" is the larva of a moth. The exact date of its appearance in the United States is unknown. It appears to have been first noticed in the Parish of St. John the Baptist, La., in 1865. It is probable that the pest was introduced in shipments of cane either from the West Indies or South America.

The injury to cane by this insect consists of tunnels about an eighth of an inch in diameter and sometimes several feet long made by the larva in the interior of the stalk (fig. 15). For the most part

the injury is not readily noticed as the cane leaves remain green. Sometimes, however, in the case of young plants, the injury is so severe that the death of the plant occurs within a few days after it has been attacked. The insect passes the winter in the larval stage within its host. It is therefore important to plant only borer-free seed cane if possible. The mature insect emerges in the spring to start another generation. Four or five generations occur annually in Louisiana. It has been computed that the loss in production of sugar upon one Louisiana plantation because of borer infestation amounts to 1,000 pounds per acre.



INJURY TO CANE STALKS BY BORERS.

FIG. 15.—The sugar-cane borer penetrates the cane stalk and remains within the stalk until it reaches maturity. It then emerges and produces another brood of borers. Several broods of this pest may be produced during a single season.

Certain parasites of the moth borer are found in the "trash" leaves, or "shucks," left on the fields after cutting the cane. It is recommended that instead of burning this débris, it be lightly covered with earth in the fall and plowed under in the spring. This practice allows the parasites to winter over successfully and attack the moth borers the following season.

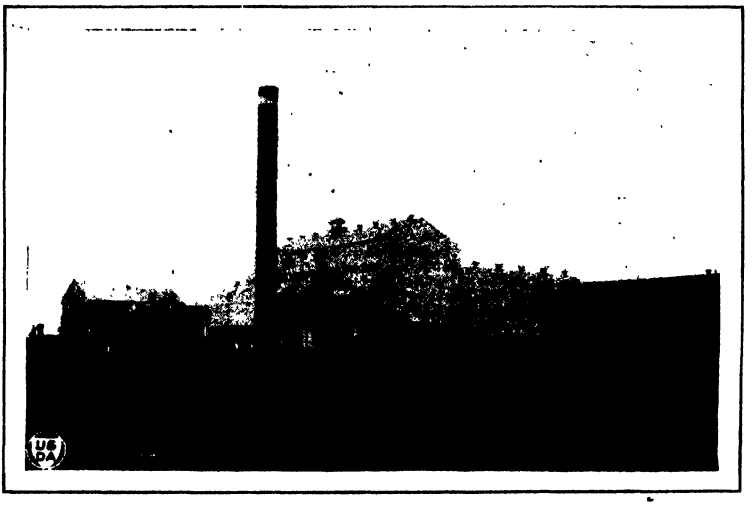
It has been demonstrated by the Department of Agriculture that the borer larvæ within seed-cane stalks can be killed by treatment with hot water for 20 minutes at 52° C. without injuring the cane. This treatment is practicable for treating seed cane previous to shipping into noninfested territory. Hot-water treatment of seed cane on a large scale for field planting has been tried; in addition to eliminating the borer, it stimulated the cane to earlier germination and more rapid growth.

The sugar cane mealybug (*Pseudococcus calciolariae*) has a wide distribution in the United States, being particularly abundant in the important sugar-growing parishes of Louisiana near New Orleans. It is present, however, in all of the other parishes where sugar cane is grown on large areas and in Georgia and Florida as well. The colonies of this insect may be recognized by the presence of white woolly patches situated usually on the

stalks in the vicinity of "eyes" where they are protected by the leaf sheaths. When infested cane is cut for seed the colonies remain in this position and frequently the insects increase in numbers to such proportions that the tender eyes are killed by their feeding. Feeding is accomplished by sucking the juice from the tender growth. Many of the stunted plants in badly infested fields of young cane have been checked in growth by the mealybug. The insects are distributed to uninfested territory on seed cane. An intimate relation between the mealybug and the Argentine ant has been proved. The mealybugs increase enormously when tended and protected by this ant. Eliminating the ant by poison bait therefore reduces the mealybug infestation. It has recently been shown that seed cane can be completely freed of the mealybugs by immersion of the cane in water at 52° C. for 20 minutes. Spread of the pest into new territory may be prevented in this way.

Manufacture of Sugar from Cane.

The juice is extracted from the cane by means of heavy steel horizontal crushers and rollers driven by powerful steam engines. The cane passes first between two crushers, which are rollers with interlocking teeth of various design on their faces. Here the cane is pressed into a mat of even thickness. It passes by means of an endless carrier to the first set of rollers which are arranged in a



A TYPICAL CANE MILL.

FIG. 16.—The development of the modern cane mill has kept pace with the most progressive of industrial enterprises. The efficiency and capacity of these mills have been greatly increased in recent times.

group of three—two below and one above. In most modern mills there are three to four such groups of rollers arranged in tandem. As the mat of cane passes in a horizontal direction from one set to the next, it is sprayed with hot water to dilute the remaining juice and facilitate a more complete extraction. After passing the last roller the mat of extracted cane fiber, or bagasse, is carried on an-

other endless conveyer to driers or directly to the furnace, where it is used for fuel to operate the mill (fig. 16).

The juice flowing downward from the sets of rollers is first strained to remove suspended matter. It passes through a juice heater, where the temperature is raised to 190–200° F., thence into settling tanks. After about one-half hour the fairly clear juice is drawn off, leaving a deposit of dirt in the bottom of the tank. The juice is further clarified by the addition of lime. Sulphurous acid or other chemicals may also be used, depending on the methods followed in individual mills. All methods have for their purpose the precipitation of impurities, which are afterwards filtered out, or the decomposition of reducing sugars into organic acids. The settlings and scums from juice heaters and settling tanks are treated separately, and the clear liquor recovered from them is added to the main body of clear juice, which is evaporated to sirup under partial vacuum in

MAKING SIRUP ON A SMALL FARM.

FIG. 17.—The old-time sirup mill is still to be found in the Southern States. The rollers are operated by means of mules and the juice is evaporated to sirup in the open kettle. There are now many modern mills in which steam or electric power is used and improved forms of evaporators are employed in making cane sirup.

the so-called "effects." The sirup may or may not be further clarified and filtered at this point, depending on details of the process used. It now passes into the vacuum pans where it is boiled at low temperatures under greatly reduced atmospheric pressure. After long-continued boiling the sirup becomes very thick and concentrated, due to evaporation of water, and small crystals of sugar begin to appear in the heavy viscous liquid. These crystals grow in size with the introduction from time to time of fresh sirup. When the crystals are of proper size the magma of crystals and mother liquor known as "massecuite" is passed on to the centrifugals, where the next operation of separating crystals from the mother liquor (molasses) takes place. Usually the molasses is not entirely exhausted of sugar and is returned and boiled again in the vacuum pan, either

alone or with the addition of fresh sirup. The process may be repeated several times.

The centrifugal machines, of which there are usually a large number, known technically as a "battery," consist of vertical cylindrical baskets inclosed in jackets. The sides of the baskets are perforated and in addition are lined with fine-mesh wire-gauze strainers. The baskets are revolved at high speed and the molasses is thrown out against the sides of the outer jacket and drops into a gutter below. The crystals are retained in the baskets and are washed quickly with water while revolving to remove the film of molasses. The sugar is scraped with paddles from the sides of the baskets as they revolve and is carried through tubes to driers, then to a spout where it is bagged or barreled.

The entire process of sugar manufacture from cane is subject to great variation of details, but all methods are based on the above fundamental principles. Sugar produced in this manner varies greatly in the amount and nature of impurities still contained. Those of high purity, polarizing as high as 99.6 at 30° C., are sometimes sold as direct consumption sugars. Others containing greater amounts of glucose, ash, and organic impurities are sent to refineries for further purification. The by-products of a cane factory, derived principally from bagasse and molasses, will be discussed under "By-products of sugar manufacture."

Manufacture of Sirup.

The manufacture of table sirup, as it is carried on in the South, requires only a small investment in equipment, consisting usually of a small three-roller mill driven by an internal combustion engine and an open evaporating pan placed over a furnace and heated by means of a wood fire. The cane juice is first settled and the fairly clear liquid is then introduced into the pan and evaporated to sirup. During evaporation the juice is continually skimmed and certain impurities are removed, but usually no chemical clearing agents are used (fig. 17).

Extension of the market for cane sirup has been retarded by the fact that, as it is produced by a large number of individuals on a relatively small scale, the sirup has varied greatly in quality. Furthermore, cane sirup evaporated to fairly high density will crystallize, while on the other hand sirup of sufficiently low density to prevent crystallization inevitably ferments unless heated and preserved in air-tight containers. Correction of these difficulties will materially assist in increasing the market for cane sirup.

Crystallization of cane sirup is due to the presence of too great a proportion of sucrose or cane sugar and may be prevented by a process recently developed in the Department of Agriculture. This consists of using invertase, an enzyme obtained from yeast, in such manner as partially to invert cane sugar, thereby producing a mixture of cane sugar and invert sugar of increased solubility. By partially inverting the cane sugar in cane sirup by this method it is also possible to produce a noncrystallizing sirup of such high density as to greatly minimize the danger of fermentation. This last procedure is recommended for sirup shipped in barrels or held in bulk during

warm weather. The process is also advantageous for preventing crystallization of sirup of moderate density packed in cans. The value of the method has been demonstrated in commercial practice. The cost for invertase is approximately one-half cent per gallon of sirup.

For the purpose of producing sirup of uniform quality the organization of cooperative associations offers attractive possibilities. A movement in this direction has been fostered during the last year by the farm bureau federations in a number of Southern States. Except in localities where a large amount of cane is available within easy hauling distance, a cooperative mill is hardly feasible. The most practical plan for most sections is to deliver finished sirup at a central blending plant, the sirup from the various individual producers being there mixed on a sufficiently large scale to insure uniformity of the various grades. The sirup can also be given such further treatment as is practicable. Experimental work indicates the feasibility of filtering the finished sirup at the central plant and by this means improving the quality of low-grade sirup.

Extension of the market for cane sirup would make profitable for the farmer an increased acreage of sugar cane, which is highly desirable in view of the need for greater diversification of crops in the South.

Factors Influencing Sugar-Beet Culture.

The commercial production of sugar beets depends upon soil, topography, climate, water supply, drainage, and seepage. In addition to the foregoing natural factors which may be considered of importance in selecting a locality for sugar-beet production, many other factors influence the production of this crop. Various pests and diseases have become so prevalent in certain areas that successful beet culture is impossible. Among the agronomic factors affecting beet production may be mentioned crop rotations, especially their influence upon soil fertility, date of plowing, preparation of seed bed, date of planting, thinning, and other operations, as well as the application of fertilizers and the care exercised by labor in performing the various operations involved in the growing of the crop. The sugar-beet areas of the United States lie in part within humid regions, dependent upon rainfall, and in part within the semiarid and arid regions, where most of the crop is grown under irrigation.

Effect of Weather on Sugar-Beet Culture.

While the temperature must be sufficient to keep sugar beets growing, it has been found that moderate temperatures and long hours of daylight are necessary to produce a high sugar content. Beets are very sensitive to frost when young, but can stand rather cold weather as they approach maturity. The crop should have a growing period of about five months.

The sugar beet requires for its development and growth a uniformly warm and moist soil and a warm atmosphere during the early and middle portions of its growing period. Cooler weather with large diurnal variations in temperature is needed during the ripening period.

The most successful beet districts in the United States are in the regions where the mean temperature during the summer months is not far from 70° F. Figure 18 shows the belt in which the mean summer temperature is between 67° and 72° F. It will be noted that most of the sugar-beet factories are located in this belt.

A uniform supply of moisture is needed for sugar beets, as drought retards growth, while excessive moisture in the soil is followed for several days by a reduced sugar content of the beet roots. Comparatively dry weather should prevail during ripening. In the Great Plains, Rocky Mountain, and intermountain regions the rainfall is not sufficient to produce a satisfactory crop of beets and irrigation is necessary. In these regions drainage as well as irrigation is usually essential to success.

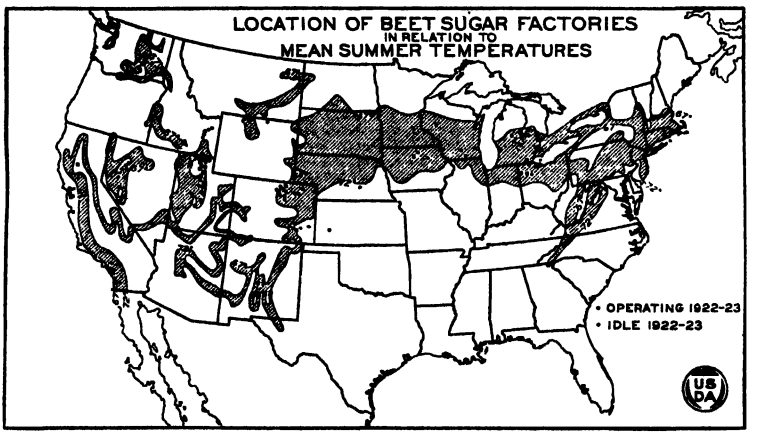


FIG. 18.—Sugar beets thrive best in localities where the temperature during the summer (average of June, July, and August) does not vary greatly from 70° F. Nearly all of the beet-sugar factories in the United States are located between the isotherms of 67 and 72° F. summer temperature. Owing to great variations in altitude in the Western States, the shaded area includes a wide range of climatic conditions in these States.

Sugar-Beet Soils.

Soils have a marked influence in determining the extent of development and distribution of the sugar-beet crop. The chief beet-growing centers east of the Mississippi River are in two well-defined areas. One of these is about Saginaw, Mich., the other extends from southeastern Michigan across northwestern Ohio. These are mostly old glacial lake plains which are flat or only slightly uneven in topography. They are characterized in large part by medium loams to heavy clays, dark gray to black at the surface and with gray mottled subsoils becoming distinctly calcareous at depths of 2 to 3 feet. It has been found that the best average results with sugar beets are secured on the dark colored silt and clay loams, and it is probable that these soils carry over 75 per cent of the crop. Similar soils occur in the smaller centers of production about Decatur, Ind., in southeastern Wisconsin, and in Hancock County, Iowa.

Light colored, better drained soils, and even light sandy types, are used to some extent for sugar-beet production, but in most cases their

use is incidental, resulting from their occurrence in small areas intermingled with the dark soils. The yields are lighter and more variable than on the dark soils, although as a rule the percentage of sugar carried is higher. Muck soils also are used in a limited way, but they never have been rated among the best soils for sugar-beet production. Even if large yields are secured, this may be more than offset by a low sugar content.

In the West a greater variety of soils are used for sugar-beet production. The industry has been extended to a number of widely scattered areas, each of which has soils more or less peculiar to itself. In general, lighter textured soils are used there than in eastern areas. By far the greatest acreage is carried on sandy loams, fine sandy loams and silt loams, with considerable development on clay loams. These soils are grayish brown to brown, or in a few cases dark brown in color, have friable subsoils and fair to good underdrainage. Sand types are not used to any extent because of their poor water-holding properties even under irrigation, and soils of heavy texture often have adobe-like properties which make them very difficult to handle. Heavy soils also tend to accumulate harmful quantities of alkali.

One of the essentials of successful beet production is high soil fertility. It is not only necessary that a satisfactory type of soil be selected for the growing of beets, but that the soil should be well supplied with available plant foods. The necessary plant foods may be supplied either in the form of stable manure, or of so-called commercial fertilizers, and green manure crops are helpful. In many of the sections where beets are grown under humid conditions considerable quantities of commercial fertilizers are used with apparently satisfactory results, but scarcely any fertilizer is used as yet in the irrigated districts.

Crop Rotations.

While beets may be grown for several years in succession it is a practice not usually followed, since it results in the accumulation of diseases and insect pests which eventually destroy or reduce the crop below a profitable basis. The systems of crop rotation vary with the locality and the individual farmer. For example, on farms where dairying is one of the principal industries, more attention is given to the production of feeds of a certain type than upon farms where other kinds of farming are practiced. In general, beans and sugar beets rotate well in areas where both of these crops are satisfactorily grown. Potatoes and beets are successively rotated in several sugar-beet areas, but care must be taken to avoid the introduction of potato scab (*Oospora scabies*) since the same disease attacks both beets and potatoes. Small grains are satisfactory rotating crops, especially when grown after sugar beets. The tilth of the soil seems to be improved by the cultivation and harvesting of the beets, so that small grains grown after the beet crop will almost universally produce larger yields.

In certain areas where crops grown in rotation with sugar beets are particularly successful they may become competing crops, and in some instances make it difficult to procure the required acreage of

beets necessary to operate a beet-sugar mill. Just as it is unwise to grow sugar beets after sugar beets for a long series of years, it is also unwise to grow continuously any one of the competing crops. Among the crops that most strongly compete with sugar beets under present conditions are beans, potatoes, and alfalfa, and in some instances the grain crops, especially corn. In general, the best results are obtained in the long run by growing crops in rotation, not only because of the effect upon the soil and the prevention of the accumulation of dangerous diseases and insect pests, but also because by so doing more uniform and satisfactory marketing and price conditions may be maintained.

Production of Sugar-Beet Seed in America.

In contrast to sugar cane, beets for the factory are grown from seed instead of from cuttings. The same care in selection of the planting material is required, for if the resulting crop falls below certain limits in sucrose content, it could not be worked up economically at the factory and would be unusable for sugar manufacture. Thus poor beet seed results in greater loss than is the case with other crops in which diminished yield is usually the only result of inferior seed. Since variation in quality of beets is permissible only within narrow limits, and since considerable technical skill is required in the selection of seed mother plants to maintain high quality, the production of seed is an operation which is not practicable for individual farmers on a small scale. The beets from a lot designed for seed production are analyzed by removing representative portions from individual beet roots without destroying the latter. The promising beets are then stored over winter and their progeny from seed are analyzed the second year following. Those not eliminated by this second test are stored and are planted out the fourth year to produce the "mother seed." This seed is planted the following spring, and the resulting beet roots or "Stecklinge" are stored and planted out the sixth year to produce marketable beet seed. The types of beets used in the United States are for the most part those known as Vilmorin and Kleinwanzleben (fig. 19).

Previous to the World War practically all of the seed used in America came from the large beet-seed companies in Europe. During the war the quality of seed from Europe deteriorated, and in addition much of it was found to be adulterated with stock-beet seed. This resulted in a considerable amount of seed being produced, mostly by the increase of seed of European origin, by large beet-sugar companies in America. Since the close of the war the importers of European seed are again assured of seed of good quality, and importation has increased (fig. 20). Much of the seed produced here during the war was of good quality, but it is evident that it can be purchased abroad more cheaply, owing no doubt to the greater experience of foreign producers and availability of cheaper labor in Europe. The advantages of a domestic supply of beet seed are obvious and were emphatically demonstrated during the war. It is almost needless to enumerate all of the advantages of a home supply of seed, but it may be pointed out that the require-

ments of the local beet-producing areas are very different. It is a recognized fact that in the improvement of cultivated plants by breeding, many types are produced that are successful on some areas but not at all suitable for others. It is reasonable to suppose, therefore, that beet types evolved for use in definite local areas would be superior to those imported from remote regions, even though the latter give approximately satisfactory results.

A BEET SEED PLANT.

FIG. 19.—Sugar-beet seed is produced the second season, the root being grown the first year and planted out the following spring for seed production. The seed plants grow to a height of from 4 to 6 feet and each plant produces from several ounces to more than a pound of seed, depending upon the season and upon the type of plant.

Practices in Growing Sugar Beets.

In the growing of sugar beets many of the implements used for the production of other crops are employed, such as plows, drags, harrows, and the like. A few special implements are necessary if beets are to be grown continuously or on a commercial scale. The principal special implements are the beet-seed drill, beet cultivator, beet lifter, and a special wagon for hauling the roots to the factory or loading station. Beet-seed drills are usually constructed so that they will plant four rows at a time. The beet rows are usually from 18 to 22 inches apart and the drills are made so that they can be adjusted to the width of the row desired. Because of the narrow rows special cultivators are made for cultivating sugar beets. In planting beet seed care should be taken to cover the seed to a uniform depth and to make the rows as nearly straight as possible. Many good stands of beets are severely injured by cutting out beets when cultivating, and

SUGAR-BEET SEED PRODUCTION, CONSUMPTION, AND IMPORTATION, 1911–1922.

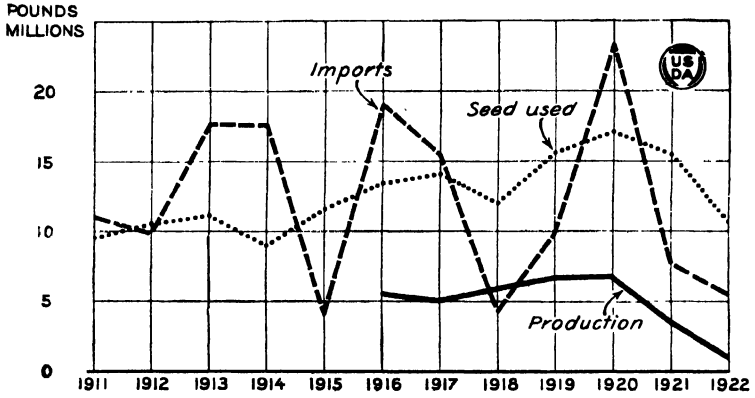
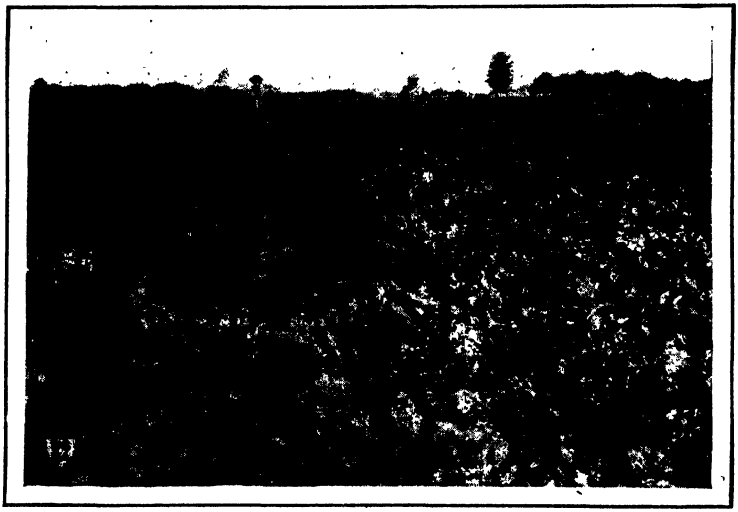


FIG. 20.—The quantity of sugar-beet seed used in the United States has increased with the increased acreage of beets planted. Until the outbreak of the World War practically all sugar-beet seed used in this country was imported from Europe. With the outbreak of the war, sugar-beet seed production was taken up and for several years the domestic supply was nearly half of the United States requirement. In 1922 the domestic production of beet seed was very small. (The quantity of seed used each year is an estimate based on acreage sown and averages about 20 per cent less than the total of imports and domestic production. This surplus is accounted for by acreage reseeded, stocks of seed on hand, losses by deterioration, etc.)

this is much more generally the case if the rows are not straight. In order to insure a uniform depth of planting, the seed bed should be thoroughly prepared until it has a uniform firmness over its entire surface.

Sugar beets are cultivated just as soon as the rows can be followed, and the beets are then blocked and thinned so that they will stand one plant in a place at intervals of from 10 to 12 inches in the row. The blocking and thinning of the beet crop is one of the most important factors in the production of a satisfactory yield. Many good stands of beets are permanently injured by blocking and thinning the

beets too far apart, or by improper thinning, so that two or more beets remain where there should be but one. Sugar beets should be cultivated often enough to keep down all weed growth and maintain a mulch over the surface of the ground. Occasional hoeings between the beets in the row are performed to keep the rows clean. When the beet leaves cover the ground the crop is laid by, and nothing further is required until the beets are full grown. Then samples are taken at random throughout the fields and tests made with reference to sugar content and purity. As soon as the sugar in the beet is greater than 12 per cent, and the purity coefficient is 80 or more, the beets are considered fit for harvesting (fig. 21). A purity coefficient below 80 indicates that the beets are not mature and that they should be allowed to remain in the ground for a longer time before they are harvested. The weather conditions greatly influence the maturity of



A FIELD OF BEETS READY FOR HARVEST.

FIG. 21.—When sugar beets are mature the foliage, if uninjured, is dense and has a yellowish tinge. The leaves and crowns of the beets, which are left in the field at harvest time, produce a large amount of stock feed.

beets, the most satisfactory condition being cool nights and warm days.

In harvesting the beets the first operation consists of lifting or loosening them from the soil. They are then thrown into piles or windrows. Usually from 12 to 20 rows of beets are used to make one row of piles or one windrow. After the beets are piled they are topped, and again thrown in piles where the ground is free from leaves and other trash. In topping the beets they are cut at the point where the lowest leaves were attached. This operation is usually performed by means of large straight knives, one stroke being sufficient to top a beet. After the beets are topped and piled they are loaded onto wagons and hauled to the sugar mill or loading station. The distance which it will pay to haul beets depends upon the con-

dition of the roads, that is, whether hilly or level, soft or hard, but usually it is not advisable to undertake to haul beet roots more than 4 or 5 miles. Farmers living at a greater distance from the sugar mill are commonly provided with loading stations or dumps at convenient points along the railroad.

Sugar-Beet Diseases.

There are four diseases of the sugar beet which are of special interest to sugar-beet growers, namely, curly-top, root rot, leaf-spot, and wilt.

Curly-top, the cause of which is not definitely known, is found only in the western part of the United States. It is carried from plant to plant and from field to field by means of a leaf hopper. The most promising line of control of this disease is through the development of a curly-top resistant strain of beets. Distinct progress is being made by the Department of Agriculture in the development of such a strain.

Root rot, produced by a fungus known as Phoma, is found more or less generally distributed over the entire sugar-beet area of the United States. It occurs also in foreign countries. It is influenced largely in its development by weather conditions, excessive moisture and high temperature being the principal factors favoring it. The only control measures known are crop rotation and uniformly favorable growing conditions.

Leaf-spot is more or less prevalent on sugar beets each year in the eastern and north central portion of the United States. It is caused by a fungus, and injury may be reduced by a deep fall plowing and crop rotation. Leaf-spot may also be controlled by spraying with Bordeaux mixture and by the development of leaf-spot resistant strains of beets.

The sugar-beet wilt, produced by the sugar-beet nematode, has been found in several Western States, where it does serious damage annually. The cause of this disease is a minute wormlike organism which lives in the soil and feeds upon the sugar beet and, to a less extent, upon many other plants. The only remedy for this disease is crop rotation. Care should be taken to avoid spreading the nematode from field to field by farming implements, animals, or man. The dump dirt which clings to the beets when they are harvested and delivered should be deposited where it can not find its way into sugar-beet fields.

Several minor diseases of the sugar beet do considerable damage annually in certain local areas. The total damage produced by sugar-beet diseases amounts to millions of dollars.

The Principal Sugar-Beet Insect Pests of the United States.

Prominent among the injurious insects of sugar beets are the sugar-beet webworm, beet army worm, beet wireworm, beet leaf beetle, beet leafhopper, root lice or aphids, false chinch bug, and cutworms.

The sugar-beet webworm is a serious beet pest and the most troublesome of those which subsist upon foliage. It is an imported species, introduced on the Pacific coast, and has spread to all sugar-

beet sections in the United States and Canada. Ordnarily this webworm subsists on weeds, such as lamb's-quarters, pigweed, and Russian thistle, in addition to beets, but when it becomes abundant it feeds on a variety of vegetables. After the webworms hatch they begin feeding on the foliage of beets, which they soon strip, causing severe losses, that become apparent in the low yield of roots per acre at harvest time. Losses as high as $2,000,000 per annum, it has been estimated, are apt to occur unless control measures are instituted as soon as infestation is observed. This webworm can be controlled by arsenicals, Paris green and zinc arsenite having proven perfectly satisfactory. Arsenate of lead and of lime are not as satisfactory. The Department of Agriculture has succeeded in effectively controlling the pest by spraying beet fields with 3 pounds of Paris green to 100 gallons of water, while other institutions have used as high as four times this amount. Careful work needs to be done to determine the most economical formula.

The beet army worm, also an imported pest, has spread into nearly all the sugar-beet districts. It is larger than the sugar-beet webworm, causes similar damage, and can be controlled by the same methods. Wireworms are particularly destructive to beet roots on the Pacific coast. A certain amount of exemption from injury can be obtained by the collection of the "worms" with baits and by using some of the usual wireworm remedies.

The beet leaf beetle, or "alkali bug," does its principal injury in alkali regions and attacks beets after the removal of its natural food plants, such as sea blite and lamb's-quarters. It is well known to growers, but seldom destroys large acreages. A knowledge of the fact that the beetle passes the winter under bunches of grass, especially "tickle grass," heaps of weeds, straw, and the like, is of value in its control, which is accomplished by providing similar artificial shelters in infested fields and burning them during the winter. Large numbers of hibernating beetles are thus destroyed. Arsenicals and other insecticides are not entirely satisfactory.

The sugar-beet leaf hopper, the vector (transmitter) of "curly-top" or "curly-leaf," exists in all fields through the growing season. This disease becomes manifest when the beets bunch up or form rosettes. It has been estimated that in 1914 the malady transmitted by this insect was the cause of a loss of over $1,000,000 in the Salinas Valley of California alone, and that in years of serious outbreaks losses in the United States may total $2,000,000. This species has been the subject of investigation for a period of years, but definite, practical results are lacking, the insect seeming to defy all attempts to combat it successfully. Spraying with Bordeaux mixture, an economic method of controlling the related potato leaf hopper and nicotine dust, valuable against most all sucking insects, have proved ineffective. The most promising control method being investigated is the cultivation of resistant strains of beets.

Beet root lice or aphids range over the entire sugar-beet area of the United States. No direct remedies are indicated. Crop rotation, irrigation, and the destruction of cottonwoods, which harbor the winged form of the pest, are helpful as methods of control.

The false chinch bug is a pest of wide distribution and is usually periodical as regards injury. It is not confined to sugar beets, attacking many other plants, but when abundant it swarms over sugar-

beet fields and is then difficult to combat. The best methods for controlling it consists in killing the bugs by means of contact poisons and capturing them on a form of sticky shield, a variation of the "hopperdozer" used for grasshoppers.

Cutworms are quite destructive to young beets, but if work is undertaken at the outset of attack they may be easily controlled by the use of poisoned baits.

In the control of all insects injurious to sugar beets clean culture is a necessity, and the eradication of weeds at all times is of great importance, because many weeds, especially such as grow in irrigated alkali regions, serve as a natural breeding place for practically all of the pests which have been mentioned, as well as for others.

Cost of Producing Sugar Beets.

Sugar beets, when produced on an extensive scale, require much more capital than most other crops. Some special beet equipment is necessary, and the crop is grown on relatively high-priced land. In addition, intensive methods, involving a relatively large cash outlay

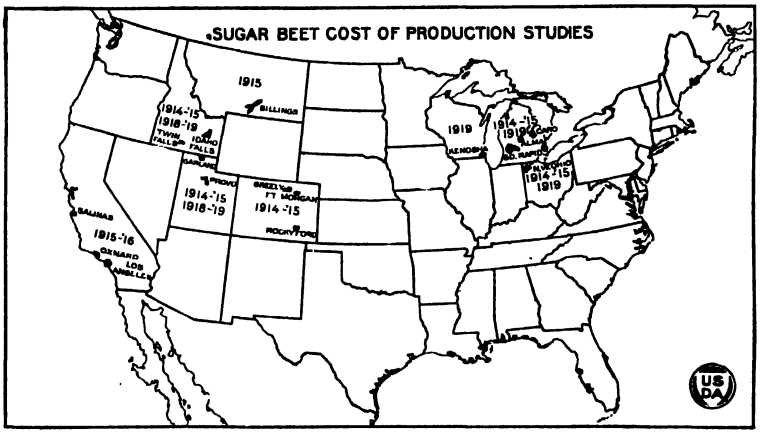


FIG. 22.—Location of areas where cost studies of sugar-beet production have been made. These areas include most of the typical sugar-beet districts of the United States.

for labor to perform the handwork, are essential to the successful production of this crop. Since the price for sugar beets is settled before the crop is planted, the grower should attempt to adjust his operations so as to produce at a cost which will return a profit at the contract price.

The areas in which studies of the cost of production have been made are shown in Figure 22.[5]

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[5] The cost data contained in this article are based on information taken from the following United States Department of Agriculture Bulletins: 693, Farm Practice in Growing Sugar Beets for Three Districts in Utah and Idaho, 1914–15; 726, Farm Practice in Growing Sugar Beets for Three Districts in Colorado, 1914–15; 735, Farm Practice in Growing Sugar Beets in the Billings Region of Montana; 748, Farm Practice in Growing Sugar Beets in Michigan and Ohio; 760, Farm Practice in Growing Sugar Beets in Three California Districts; 763, Cost of Producing Sugar Beets in Utah and Idaho, 1918–19; 917, Farm Practice in Growing Field Crops in Three Sugar-Beet Districts of Colorado.

Elements of Cost.

The principal items entering into the cost of sugar-beet production are man and horse labor, seed, fertilizer, irrigation water, taxes, use of land, and equipment.

Under eastern humid conditions, as represented by Michigan, Ohio, and Wisconsin, the percentage distribution of the various cost items grouped under four general classes is about as follows: Man and horse labor, 65 per cent; materials, 10 per cent; use of land, 20 per cent; and all other costs, 5 per cent. In the irrigated areas, represented by Colorado, Utah, Idaho, and Montana, and for Pacific coast irrigated and nonirrigated conditions represented by California: Man and horse labor constitute about 55 per cent; materials, 10 per cent; use of land, 30 per cent; and all other costs, 5 per cent of the total cost of production. The relatively lower land values in Michigan, Ohio, and Wisconsin serve to reduce the percentage of total costs represented by land rental and to increase the percentage that labor is of the total cost of sugar-beet production in these States.

Cost items expressed as money units are subject to considerable change, especially during periods of wide price fluctuations. The same items when expressed in terms of quantity requirements of labor and materials, such as hours, pounds, and the like, are more stable and lend themselves better to analytical study. The items which can be shown in this manner in the case of sugar beets are man labor, horse labor, seed, manure, and commercial fertilizer, the combined cost of which represents from 83 to 91 per cent of the total operating expense of producing an acre of sugar beets. (Fig. 23 and Table 13.)

The sugar beet is an intensive crop and requires a large amount of man labor, especially during the thinning and harvesting periods. About six times more man labor is required to raise an acre of sugar beets than an acre of corn and twelve times more than is required to raise an acre of hay. The number of acres a grower can handle is limited by the amount of hand labor available at the thinning and harvesting periods. When large acreages are grown, the hand labor is usually employed on a contract basis, a stipulated sum per acre being paid for blocking and thinning, hoeing, pulling, and topping. The hand labor constitutes from 60 to 80 per cent of the total man-labor expense.

Considerable variation existed in the labor requirements for the sugar-beet districts shown in Figure 23 and Table 13. The man hours per acre were relatively low in California, while the horse hours per acre were relatively low in Michigan and Ohio. The large size equipment used in the California districts was one of the chief factors tending to reduce the man-hour and to increase the horse-hour requirements, while in Michigan and Ohio small equipment was used, requiring more man hours but relatively fewer horse hours per acre. In Colorado, Utah, and Idaho the extra work, because of irrigation, served to increase the man-hour requirements. Because sugar beets are a bulky, heavy product, the yield per acre is an important factor in determining the labor requirements.

An example of the seasonal distribution of man and horse labor in a representative district of Colorado is given in Figure 24. The

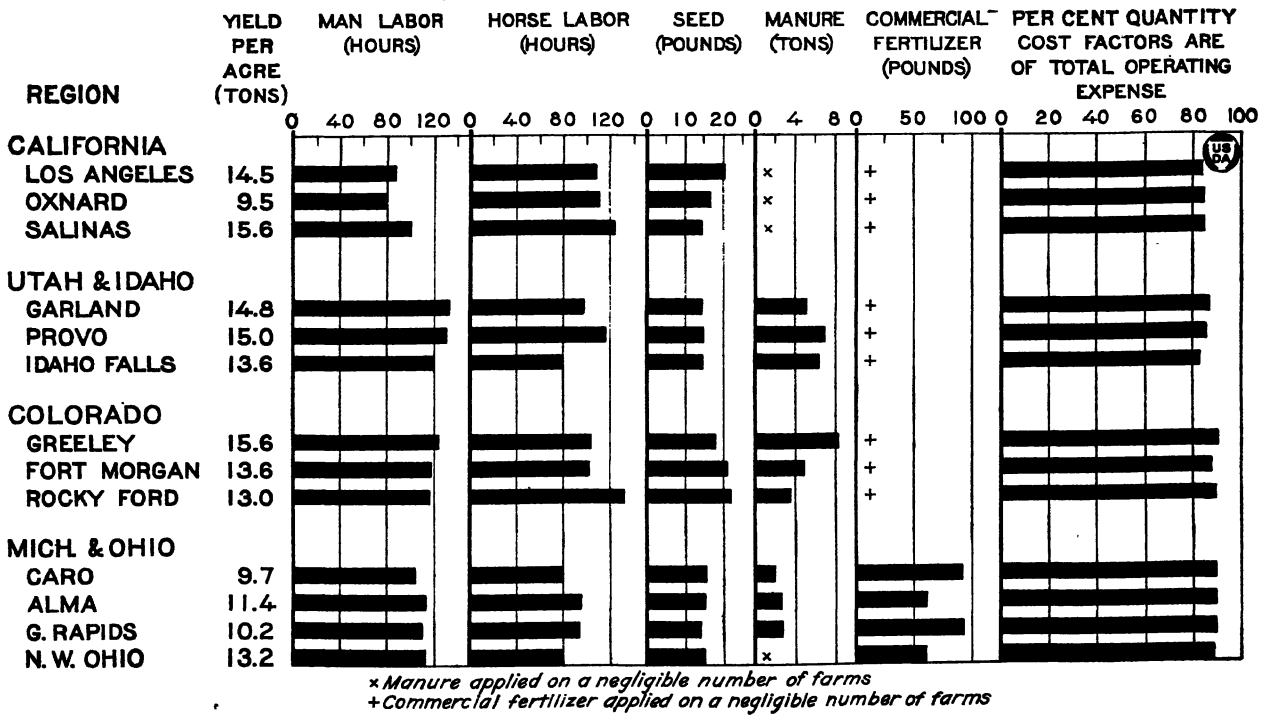


FIG. 23.—Differences in yields and in the practices of growing and handling the crop caused considerable regional variation in the hours of man and horse labor required, and in amounts of seed, manure, and commercial fertilizer used. In the Western States no commercial fertilizer was used, and in California very little stable manure was applied. The ratio of the cost of the quantity factors to the total operating expense was slightly lower in Utah, Idaho, and California than in Ohio, Michigan, and Colorado.

seasonal demand for labor on sugar beets in this district is rather uneven and fits in well with the production of barley, oats, and alfalfa. The growing of these crops serve to fill in profitably the otherwise slack periods during June and July.

TABLE 13.—*Sugar beets: Quantity cost factors per acre, 1914–1916.*

Region.	Yield per acre.	Man labor.	Horse labor.	Seed.	Manure.	Commercial fertilizer.[2]	Percentage quantity cost factors are of total operating expense.[3]
	Tons.	*Hours.*	*Hours.*	*Pounds.*	*Tons.*	*Pounds.*	*Per cent.*
California:							
Los Angeles	14.5	87.7	109.3	20.7	(1)	(4)	84
Oxnard	9.5	79.5	111.5	16.6	(1)	(4)	85
Salinas	15.6	101.2	124.3	14.6	(1)	(4)	85
Utah and Idaho:							
Garland	14.8	133.3	98.5	14.7	5.1	(4)	87
Provo	15.0	130.8	117.1	14.9	7.0	(4)	86
Idaho Falls	13.6	119.4	79.3	14.7	6.3	(4)	83
Colorado:							
Greeley	15.6	123.9	104.5	18.0	8.3	(4)	91
Fort Morgan	13.6	118.1	103.0	21.1	4.4	(4)	88
Rocky Ford	13.0	117.3	132.7	21.7	3.6	(4)	90
Michigan:							
Caro	9.7	105.5	80.0	15.6	2.0	92	90
Alma	11.4	114.8	95.3	15.3	2.7	62	90
Grand Rapids	10.2	111.3	93.8	14.2	2.8	94	90
Northwestern Ohio	13.2	113.4	79.1	15.2	(1)	61	89

[1] Manure applied on a negligible number of farms.
[2] The quantities of manure and commercial fertilizer shown are the result of prorating the total amount used over the entire beet acreage.
[3] Operating expense includes all items of cost except use of land.
[4] Commercial fertilizers were not used in these States in growing sugar beets.

The labor of hauling to loading station or sugar factory constituted about 12 per cent of the total man hours and 35 per cent of the total horse hours required to produce and deliver the crop. Studies that have been made in various sugar-beet districts indicate that the average haul is about 3 miles. The relation of the distance hauled to the labor cost of hauling is shown in Figure 25. The expense of transportation serves to concentrate the production of sugar beets within a relatively short haul from the loading station or beet-sugar factory.

The average amount of beet seed used per acre was slightly less in Utah, Idaho, Michigan, and Ohio than in California and Colorado (fig. 23). The seed requirements for all California districts and the Fort Morgan and Rocky Ford districts of Colorado include a small amount of replanting.

Barnyard manure was used in all districts, but only to a slight extent in California and Ohio. In the California areas the supply of farm manure was limited; in Ohio the growing of sugar beets in rotation with clover partly accounted for the small amount used in that State. In Utah, Idaho, and Colorado, where winter feeding of sheep and beef cattle was largely practiced, considerable manure was available for use on sugar-beet land.

MONTHLY DISTRIBUTION OF SUGAR-BEET LABOR PER ACRE: FORT MORGAN DISTRICT, COLORADO, 1914–15.

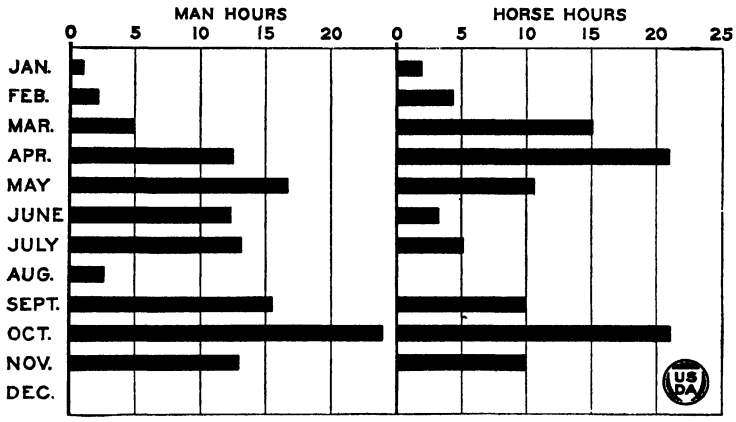


FIG. 24.—The heaviest requirements for man labor in the production of the beet crop occur in May and October, during the thinning and harvesting periods; the "peak loads" for horse labor are in April and October at the seeding and harvesting season. Much of the man labor required in these operations is hired on a contract basis.

Commercial fertilizer was applied only in the Michigan and Ohio districts. The actual application varied from an average of 130 pounds in the Caro districts to 170 pounds per acre in northwestern Ohio.

The Use of Quantity Requirements of Labor and Materials in Computing Costs.

A knowledge of the quantity requirements of labor and materials makes it possible to compute approximate costs for a given year, providing prices and yields are known. Table 14 shows how current rates may be applied to these requirements in computing the average regional cost of producing sugar beets in 1922 for the districts under consideration.

LABOR COST OF DELIVERING SUGAR BEETS, UTAH AND IDAHO, 1918–19.

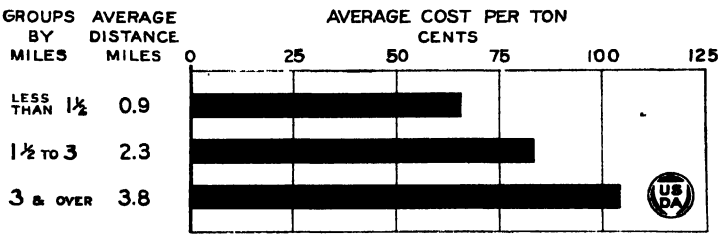


FIG. 25.—The labor cost of delivering sugar beets to the sugar factory or loading station depends largely upon the distance hauled. In Utah and Idaho, in 1918, the cost increased about 13 cents per ton for each mile after the first mile.

TABLE 14.—*Computed cost of producing sugar beets, 1922.*

Item.	California—Oxnard district.			Colorado—Greeley district.			Michigan—Caro district.		
	Amount per acre.	Rate.	Cost per acre.	Amount per acre.	Rate.	Cost per acre.	Amount per acre.	Rate.	Cost per acre.
Man labor (hours) [1]	19.5	$0.30	$5.85	44.2	$0.25	$11.05	38.5	$0.25	$9.62
Contract hand labor			18.30			18.00			18.50
Horse labor (hours) [1]	107.1	.125	13.39	93.7	.15	14.06	78.2	.17	13.29
Seed (pounds)	16.6	.15	2.49	18.0	.20	3.60	15.6	.15	2.31
Commercial fertilizer (pounds)							92.0	$32 T.	1.47
Manure (tons)				8.0	.65	5.20	3.0	.90	2.70
Total			40.03			51.91			47.92
Per cent these items were of total operating expense, 1915	85			91			90		
Total operating expense (100 per cent)			17.09			57.04			53.24
Use of land	$300	7%	21.00	$180	7%	12.60	$125	6%	7.50
Total cost per acre			68.09			69.64			60.74
Yield per acre (tons), 1922	8			10.25			9		
Total cost per ton			8.51			6.79			6.75

[1] Adjustments of man and horse-hour requirements were made on the basis of yield.

So long as the cost of the total quantitative requirements maintains a fairly constant relation to the total operating expense and constitutes a relatively large per cent of it, these requirements provide a valuable basis for estimating costs. If it is desired to esti-

VARIATION IN COST PER TON OF PRODUCING SUGAR BEETS, UTAH AND IDAHO, 1918–19.

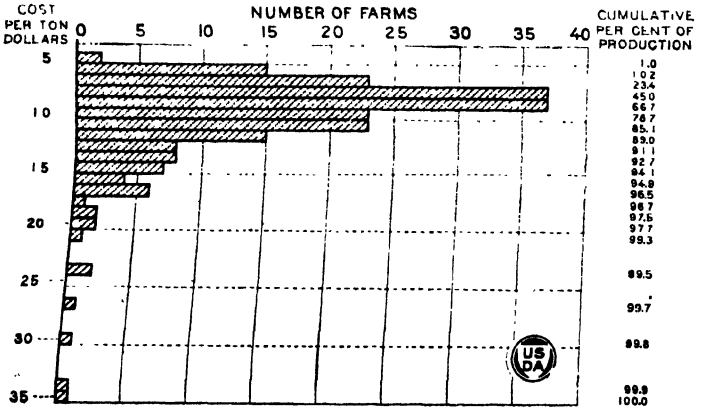


FIG. 26.—The largest number of farmers in these districts produced beets in 1918 at a cost of $9 and $10 per ton, but two farmers produced at a cost of $5 per ton, while one farmer had a cost of $35. Yield per acre was the principal factor which enabled some growers to produce at a cost materially below the average, yet undoubtedly a part of these lower costs was the result of a more economical use of labor and the other factors of production.

mate the cost on a particular farm, the actual requirements for that farm should, of course, be used.

Variations in Cost.

Farm cost figures, as a rule, have been shown as averages. It is a matter of common observation, however, that land values and the amounts and prices of labor and materials in a given region vary

INFLUENCE OF YIELD PER ACRE ON COST OF PRODUCING SUGAR BEETS, UTAH AND IDAHO, 1918–19.

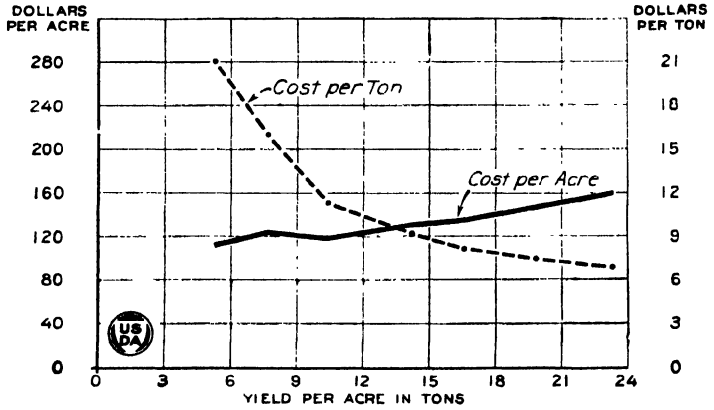


FIG. 27.—The farmers with the highest yield per acre produced beets at the lowest cost per ton. As the yields increased the cost per acre increased, but the cost per ton decreased at a much faster rate. The cost groups indicate that in these years the methods of production were not sufficiently intensive to result in an increasing cost per ton.

from farm to farm and that yields fluctuate widely. These differences result in wide variations in production costs. A comparison of a grower's own costs with an array of costs for a group of farms indicates where his farm stands in the array and should serve to encourage him to study his costs with a view of reducing them wherever possible.

Figure 26, showing an array of costs in Utah and Idaho for the years 1918 and 1919, is presented as an example to illustrate the wide range that may exist in the cost of producing sugar beets. The average cost was $9.49 per ton for an average yield of 13.7 tons per acre, while the range in cost was from $5 to $35 per ton. Yield per acre was the dominant factor in the grouping of these farms according to cost. The grower with the highest cost had a yield of only 3 tons per acre, while the grower with the lowest cost had a yield of 24 tons per acre. Approximately 80 per cent of the growers, 81 per cent of the harvested acreage, and 89 per cent of the total production were included in a cost of $12 or less per ton.

In general, for a constant acre yield an increase in beet acreage per farm within reasonable limits results in a decrease cost per ton. For most profitable production a grower should have sufficient

acreage to make the sugar-beet enterprise an important one in the farm business. With a certain market and a guaranteed price per ton, an effort should be made to obtain good yields, which are associated with thorough tillage methods, a good cropping system, and the exercise of care in the performance of the handwork, especially blocking and thinning, upon which a good stand largely depends.

An example of the influence of yield per acre on the cost per acre and per ton is shown in Figure 27. With few exceptions an increase in yield results in some increase in cost per acre, but a very much greater decrease in cost per ton. With an increase in yield of from 9 to 24 tons per acre, the cost per acre increased from $119 to $160, or 34 per cent, while the corresponding cost per ton decreased from $14 to $7, or 50 per cent.

Sugar-Beet Land Tenure.

Studies of the tenure of sugar-beet land in the principal sugar-beet districts of the United States show that in Ohio, Michigan, Utah, and Idaho a greater percentage of the beet land was operated by owners than by tenants, while in Colorado and California the opposite was the case.

In these areas both the cash and share methods of rental were followed in leasing sugar-beet land. Under the cash rental method the landlord paid the land tax and all building and fence maintenance, and the tenant furnished all work stock and equipment, paid all operating expense, and received all of the crop produced. Several methods of share leasing of sugar-beet land were practiced, and much variation existed as to the division of the expense and the share of the proceeds from the sale of the crop that was received by the landlord and tenant, the landlord receiving one-half, one-third, one-fourth, one-fifth, or two-fifths of the crop according as the expenses were shared by each. Of these the one-fourth and one-half share method of rental were most general. Under the one-fourth share, which was the most common method of leasing sugar-beet land in California, Colorado, and Utah, the landlord paid the land tax and the tenant furnished all work stock and equipment, paid all operating expense, and gave the landlord one-fourth of the proceeds from the sale of the crop. The half share method of rental prevailed in Michigan and Ohio. Under this system the usual custom was for the landlord to maintain the buildings and fences, pay the land tax and half of the expense for seed, fertilizer, and hand labor, and to receive half of the proceeds from the sale of the crop, the tenant furnishing the work stock, equipment, and all labor except half of the hand labor.

Relation of Sugar Beet Prices to the General Price Level.

In order that the sugar company may know the approximate tonnage that will be available for the "campaign" and that the grower may have a definite market for his product, it has become the universal practice for the sugar company and the grower to execute an agreement relative to the acreage to be planted and the price to be paid by the company for the crop when produced. The price usually involved a sliding scale based upon the sugar content.

In Figure 28 the index number of the wholesale price of all commodities is taken as a measure of the general price level and compared with the index number of the farm price of sugar beets. In order to provide a standard of pre-war conditions for measuring price changes, these index numbers were computed using the year 1913 as a basis. A comparison of the prices received for sugar beets with the general price level for all commodities serves to measure whether the price received for sugar beets is relatively high or low.

The general trend in the price level of all commodities and the average farm price received for sugar beets over the period 1911 to 1915 was fairy constant. During the next four years, the trend in price of all commodities and of sugar beets was upward; but the price of things that farmers buy, as measured by the general price level of all commodities, increased at a faster rate than did the price of sugar beets, so that the growers' purchasing power, as measured by sugar beets, was lower during and after the World War than for

TRENDS OF PRICE OF SUGAR BEETS AND OF ALL COMMODITIES, 1911–1922.

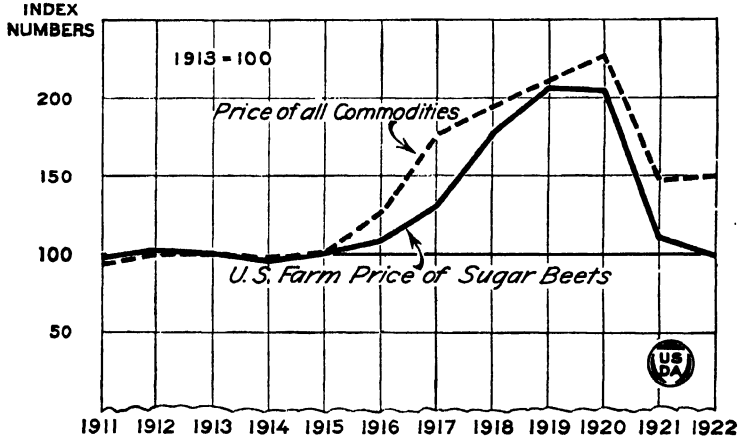


FIG. 28.—The price of sugar beets in 1922 was slightly below the price in 1913, whereas the average price of all commodities was nearly 50 per cent above the 1913 price. Consequently, the purchasing power of a ton of beets in 1922 was only about two-thirds of its purchasing power in 1913. This was the lowest for any year during the period 1911 to 1922.

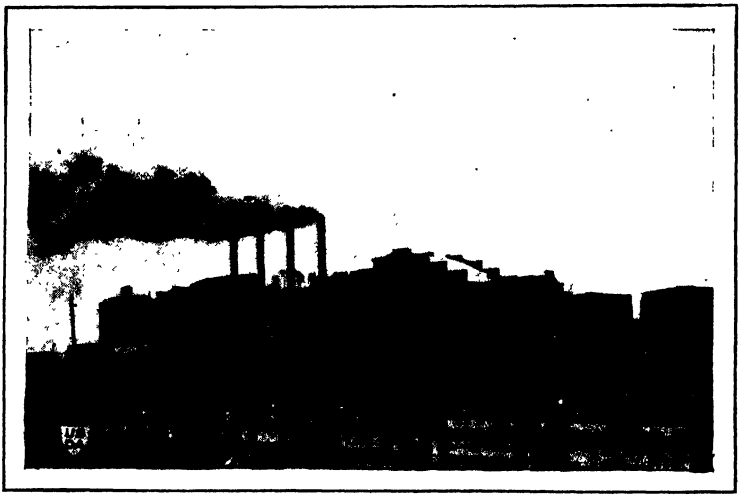
the period immediately preceding. In 1922 the price index for all commodities was 149, while the price index for sugar beets stood at 99.

Manufacture of Sugar From Beets.

Sugar beets, like sugar cane, are transported for manufacture into sugar to large factories which, for the reasons given in the discussion of cane, should be centrally located with reference to the beet-growing area (fig. 29). Private railways are in almost universal use on cane plantations, but this is not the case with beets, which are grown mostly on small independent farms, and hauled in wagons to the

mill or to loading stations on the main railway. At the factory the beets are dumped into V-shaped bins at the bottom of which is a flume covered with removable boards. As needed, the beets are carried into the factory by the swift current of the flume.

Briefly, the process of manufacture consists of cleaning and slicing the beets, placing the slices in large cylinders and extracting the sugar by diffusion. This is accomplished by successive treatments with hot water. Here is where the process differs essentially from extraction from cane. The extract is clarified by treatment with suitable chemicals, the sludgelike precipitated material removed by filtering, and the clean juice evaporated under reduced pressure until a mass of sugar crystals has been formed. The sugar is finally separated from the other liquor or molasses. After several strikes of sugar have been obtained, the molasses is further desugarized by other processes. The Steffen process is generally used in this country.



A TYPICAL BEET-SUGAR FACTORY.

FIG. 29.—Modern beet-sugar factories in the United States are capable of slicing from 500 tons to more than 3,000 tons of beet roots per day. The average slicing capacity of the beet-sugar factories in the United States is approximately 1,000 tons daily. When the factory is started it operates continuously until the entire crop of beets has been sliced.

Owing to variations in the composition of beets, due largely to storage and variations in degree of maturity, it has been necessary to discard molasses from time to time in operating the Steffen process, the net result being that only 65 per cent of the beet molasses produced has been treated for recovery of sugar. The remaining 35 per cent has been used in the past largely for feeding purposes, a relatively small amount having been used for manufacture of alcohol. Owing to the recent drop in price of this discard molasses, the question of increased efficiency in desugarization has become very important. The Department of Agriculture is investigating this problem at the present time and also devising improved analytical

methods, which will make it possible to determine more accurately the amounts of sugar entering the factory and the losses which occur during the process of operation. More accurate chemical control makes possible further reduction of sugar losses (fig. 30).

Improvement of Sugar Plants by Breeding and Selection.

Competition between the sugar-producing countries of the world has resulted in attention being directed toward increasing the amount and quality of sugar plants produced from a given unit of area. The early years of the sugar-beet industry in Europe were marked by successful efforts to raise the sugar content of the beets by selection in order to compete with cheap sugar imported from the cane plantations of the Tropics. At present these efforts are not confined to competition between beet and cane growers. Both industries are established on permanent footings. The attempts directed toward

SUGAR BEETS, PURITY AND EXTRACTION, AVERAGE FOR UNITED STATES, 1904–1922.

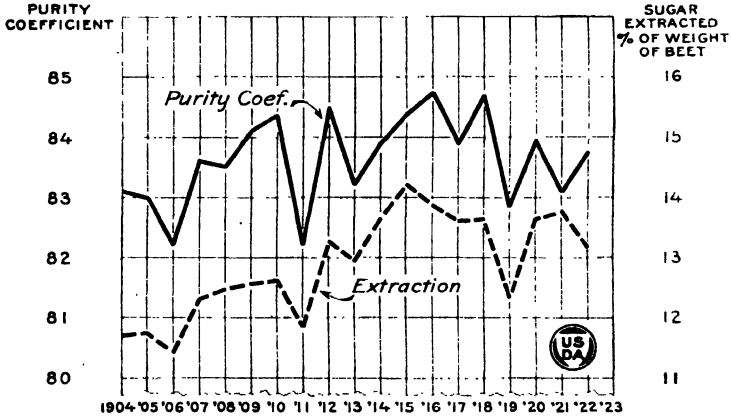


FIG. 30.—The purity coefficient, which is determined by dividing the amount of sugar in a given quantity of beet juice by the total solids in the same quantity of beet juice, should be not less than 80 if the beets are mature. The extraction of sugar from beets depends upon the quality of the beets, the coefficient of purity, and the efficiency of the factory equipment and operators. The percentage of extraction increased appreciably between 1904 and 1915.

amelioration of sugar plants is evident among the cane regions in competition with one another and among the beet regions of the world as well. There are 18 Government-maintained experiment stations devoted wholly or in part to the improvement of sugar-cane varieties. A still larger number of private experiment stations are supported by cane-sugar companies or associations of companies. All of the large sugar-beet seed companies that produce their own seed must engage in the breeding of desirable strains, and many Government institutions also give attention to this problem.

Keeping in mind the relatively high value of land suitable for sugar plants and the great expense required in growing them, the essential object to be attained is seen to be production of a large

amount of sugar per acre. Practices in growing the crops may cause great variation in yields, but the characteristics of the plants themselves are fundamentally important. Reduced to a simple statement, they must yield a large amount of raw material rich in sucrose. Many other factors, such as the time required to reach maturity and resistance to cold, drought, and other adverse conditions must be considered. A large yield of sugar per acre from a great tonnage of raw material may be less profitable owing to the expense in handling the latter than a somewhat smaller yield of sugar recovered from a small tonnage richer in sugar. In the case of sugar cane some varieties extremely rich in sugar yield too small an amount of sugar per

TREND OF YIELD PER ACRE OF CANE AND SUGAR, JAVA COMPARED WITH LOUISIANA, 1895–1922.

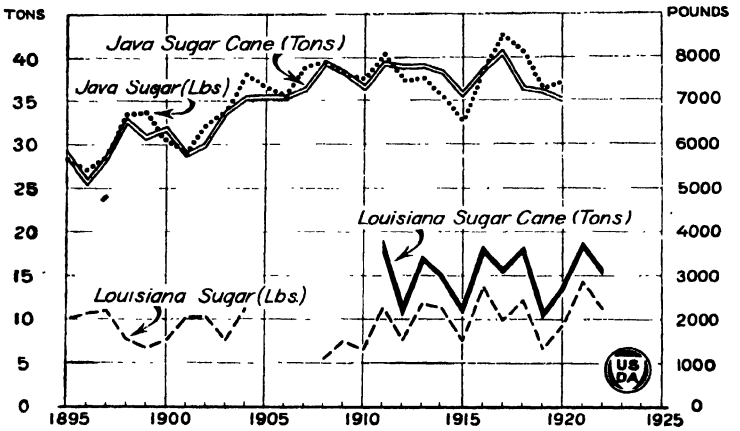


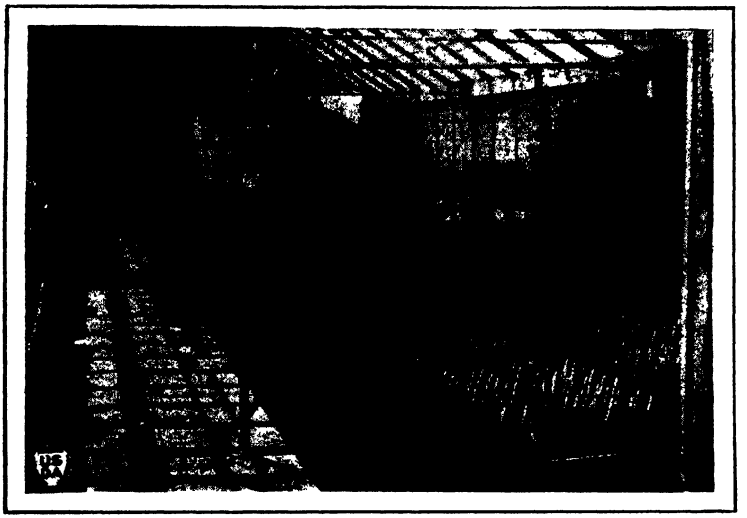
FIG. 31.—The gradual increase in yield of cane and sugar per acre in Java is owing largely to adoption of superior varieties evolved by experiment stations and nurserymen. Practically all of the sugar produced by Java to-day is made from hybrid seedling varieties.

acre on account of the small size and weak stooling properties of the plants. The habit of growth of sugar cane, such as prolific stooling and early shading of the ground or "closing of the rows," results in a reduction of expense in cultivating. Erect growth, freedom from irritating bristles in the leaf sheath, and ease in removal of the leaves or "trash" are characteristics that facilitate harvesting.

In the case of sugar beets, and sugar cane as well, immunity from the attacks of certain diseases and insect pests is a matter of utmost importance.

The presence of nonsugar compounds and sugars other than sucrose and their effect in preventing or complicating the recovery of sucrose must be considered. These points, together with many others, must be taken into account by the sugar-plant breeder.

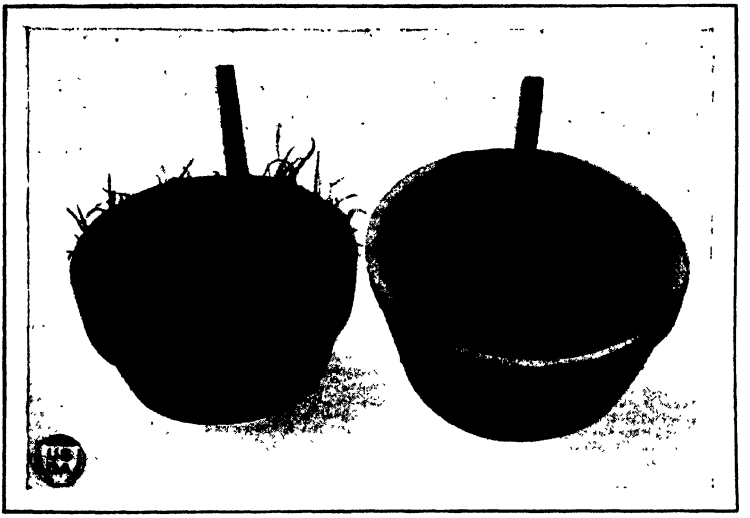
Sugar beets being grown commercially from seed, the desirable strains as described in the discussion of beet-seed production are bred by selection of pure lines rich in sucrose. The flowers are open-fertile and failure to select the desirable strains would soon lead to deterioration in subsequent generations. Sugar cane, on the other



CANE SEEDLINGS IN GREENHOUSE.

FIG. 32. Thousands of sugar-cane seedlings are produced annually by the Department of Agriculture. Their performance is tested by checking against that of standard varieties. Viable seed has been obtained in the United States only in southern Florida.

hand, is grown commercially only from cuttings. By this vegetative method of reproduction no obvious deterioration has been demonstrated. Recently the practice of obtaining improved varie-



CANE SEEDLINGS ABOUT SIX WEEKS OLD.

FIG. 33.—The minute seeds from cane which has "arrowed" is sown on sterilized soil in flats or pots. The amount of germination varies greatly with different varieties. Some varieties are quite sterile. The seedlings at the left are hybrids resulting from the crossing of a standard variety with a variety immune to mosaic.

ties from seed in Java and Barbados has, however, necessitated the adoption of hybridization and selection by competing countries (fig. 31).

Much of the work in improving varieties of sugar cane has been haphazard, largely owing to the extreme technical difficulties encountered in crossing varieties and germinating the minute seeds. In many regions viable seed are not produced. With proper study of the characteristics of parents and intelligent application of the principles of genetics, much has been accomplished, but the possibility of further improvement still exists. Seedlings from self-fertilized plants, especially hybrids, are sometimes better than the parents (figs. 32–34).

Consideration is being given to the possibility of improving sugar cane by bud selection. True bud mutations or "sports" are

CANE-SEEDLING TRANSPLANTS.

FIG. 34.—After the roots are well established the seedlings are picked out and transplanted to pots accommodating about 10 plants. As they develop in size individual plants are then transplanted successively into pots of increasing size, and those which survive are eventually designated by number and planted in the field.

rare, however, and authentic cases, as far as have been proved, are simply color variations. Individual plants of the same variety vary greatly in size of stalks, tillering, etc., under apparently the same conditions. The desirable ones may be plus variants rather than mutations, and it is yet to be proved whether in the cases of a crop which is replanted every few years a selection of these plants is commercially practicable. Bud selection has been notably successful in the case of long-lived citrus and other trees.

Production of Sucrose by Sorgo and Maple.

Sucrose is produced in considerable quantities by sorgo and maple, being utilized mostly in the form of sirups. There are many varie-

A FIELD OF SORGO.

FIG. 35.—The sorgos, from which the sorgo sirup is produced, are grown in nearly all States. When the sorgo is mature it is harvested in a manner similar to sugar cane and milled, generally in farm or custom mills and not in large factories.

ties or strains of sorgo grown in this country. One or more varieties are grown commercially in each of the 48 States (fig. 36). Owing to the readiness with which sorgo plants cross-pollinate, existing varieties are badly mixed. Rapid progress is being made in the breeding of pure and improved strains suited to the great variety of soil and climatic conditions of this country (fig. 35). At the outbreak of the World War the production of sorgo sirup had fallen to below

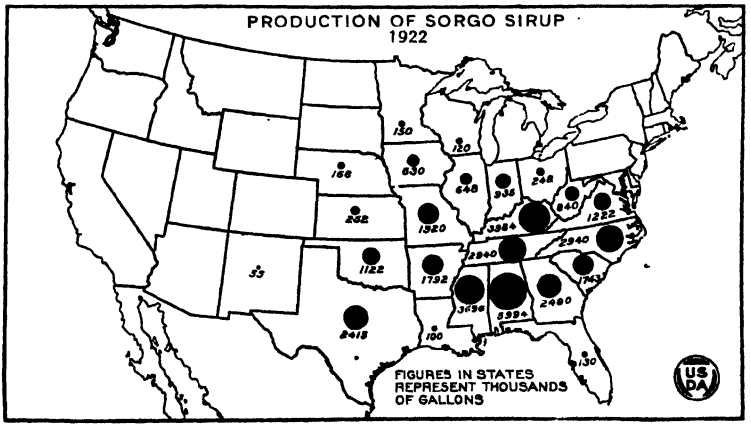


FIG. 36.—The production of commercial sorgo sirup is confined almost exclusively to the Southeastern and South Central States. Large quantities of sorgo sirup are produced for home consumption, however, as far north as Wisconsin and Minnesota. The map shows total production of sorgo sirup in the more important States. In the Gulf States and Georgia about twice as much sirup is made from sugar cane as from sorgo.

PRODUCTION OF SORGO SIRUP IN THE UNITED STATES, 1859–1919.

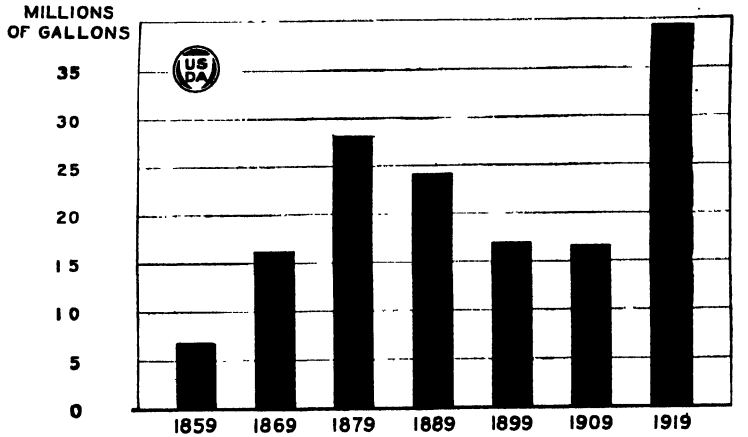


FIG. 37.—The production of sorgo was stimulated in the late seventies and the early eighties by the hope that sugar could be made from this plant. From that period the production of sorgo sirup declined until just previous to the World War, when less than 15,000,000 gallons were produced annually. With the outbreak of the World War the production of sorgo sirup again increased until in 1919 it amounted to 39,400,000 gallons, and in 1921 reached the maximum of approximately 45,500,000 gallons. By 1923 the production had declined to 33,600,000 gallons. These estimates for 1919, 1921, and 1923 were made by the Department of Agriculture; for other years the figures are from census reports.

15,000,000 gallons, but by 1917 it had increased to 37,472,000 gallons, and in 1921 it reached a total of 45,554,000 gallons (fig. 37). Production declined to 33,600,000 gallons in 1923.

The amount of maple sirup and sugar produced in the United States declined 20 per cent between 1909 and 1919, but the total value

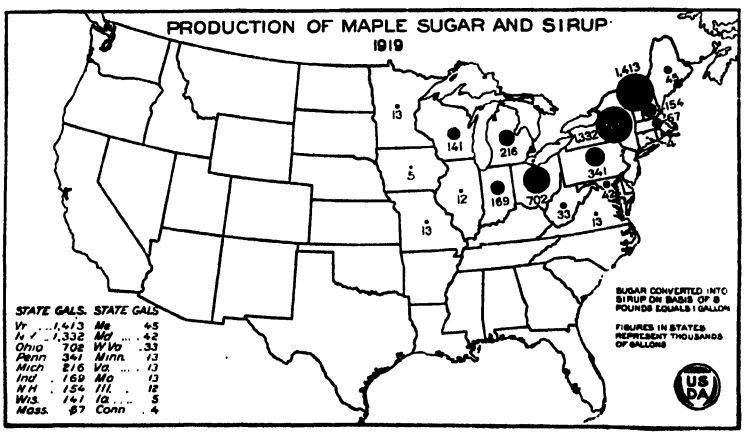


FIG. 38.—Maple sugar and sirup are produced in 23 States; but 13 States, located in the northeastern quarter of the United States, produce 95 per cent, and 3 States (Vermont, New York, and Ohio) produce over 70 per cent. No maple sugar or sirup is made outside of the United States and Canada. The production in the United States of maple sugar and sirup (jointly equivalent to about 20,000 tons of sugar in 1919) is insignificant compared with sugar from beets and cane (about 1,000,000 tons).

increased 120 per cent. Seven thousand fewer farms reported the production of maple sirup and sugar in 1919 than in 1909, a drop of 8 per cent, and 1,440,000 fewer trees were tapped. Vermont and New York are close rivals in production. In general the sugar groves

MAPLE GROVE IN VERMONT.

FIG. 39.—Maple trees normally grow in groves. The large tree in the foreground in the above picture shows the method of collecting sap for sugar or sirup production.

in Vermont are considerably larger than those in other States, the larger production in New York being due to a greater number of small groves. The total production of maple sugar and sirup in 1919 was equivalent to 4,700,000 gallons of sirup, valued at over $12,300,000 (figs. 38 to 40).

Production of Other Sugars.

Glucose is manufactured in large amounts from cornstarch, and is sold for table sirup and other purposes. It is prepared by a chemical process which consists of hydrolizing the starch into glucose by means of acids. Frequently part of the output of a glucose plant is blended with maple sirup or other flavoring materials. The resulting mixtures are palatable and nutritious, but do not possess the caloric value nor the sweetening power of sirups having a larger per cent of sucrose, such as cane, maple, and sorghum sirups. The value of these products increased from $32,930,918 in 1909 to $134,548,109 in 1919.

Other sugars that previous to 1914 were largely or entirely imported, but which are now manufactured in the United States in sufficient quantities for domestic needs, are lactose (milk sugar),

MAPLE SUGAR PRODUCTION, 1839–1919, AND MAPLE SIRUP PRODUCTION, 1859–1919.

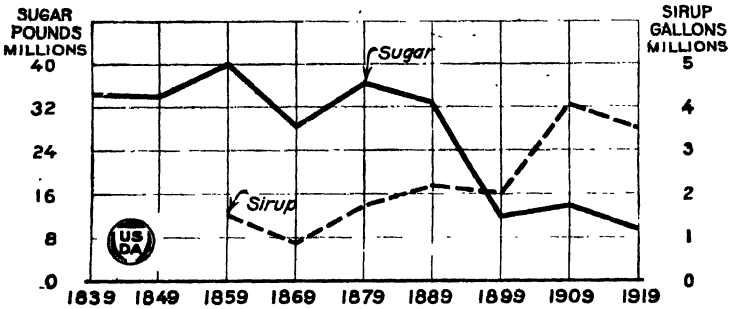


FIG. 40.—The production of maple sugar has decreased greatly since 1889, while the production of sirup has increased considerably during that period. The production of maple sugar and sirup is dependent upon the season, as well as upon the number of trees tapped.

used in the preparation of infant foods, etc.; levulose, used in place of sucrose in the foods of persons suffering from diabetes, etc.; and the so-called "rare" sugars, such as maltose, xylose, melezitose, melibiose, trehalose, rhammose, etc., used almost entirely in chemical and bacteriological investigations. The production of these sugars varies from about 6,000,000 pounds in the case of lactose to possibly less than 1 ounce in the case of some of the rare sugars, and the price varies from about 20 cents per pound in the case of lactose to $25 or more per ounce in the case of certain of the rare sugars.

By-Products of Sugar Manufacture.

With the centralization of sugar-cane and sugar-beet enterprises, and the accompanying increase in the size of mills and factories, the enormous amount of by-products became more apparent and their utilization more practicable. Until recently the great bulk of these by-products, produced in small amounts by the innumerable small inefficient mills, were wasted. The principal by-products common to both cane and beet sugar factories are molasses and products

derived from it, such as alcohol and rum. In addition to the output from the beet factories of the West and Middle West and the cane mills of the South, a great quantity of blackstrap molasses is imported each year from Cuba (fig. 41). It is used largely as stock feed, principally in feed mixtures. Many farm animals relish these mixtures, which consist for the most part of roughage sprinkled with dilute molasses. Good results have been obtained in the fattening of beef cattle with both beet and cane molasses. Since molasses is rich in carbohydrates, it should be fed with alfalfa or other protein feed in order to make a balanced ration. Cane molasses is more or less constipating, while beet molasses, owing to the high per cent of salts, has a laxative action. Excessive amounts, therefore, should not be used.

Molasses is also used for the manufacture of industrial alcohol, and it is anticipated that the demand for this product will increase. In

IMPORTATION OF MOLASSES INTO THE UNITED STATES, 1875–1922.

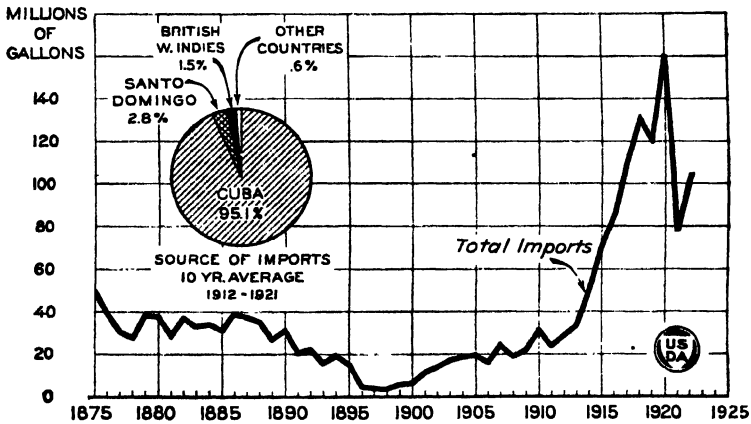


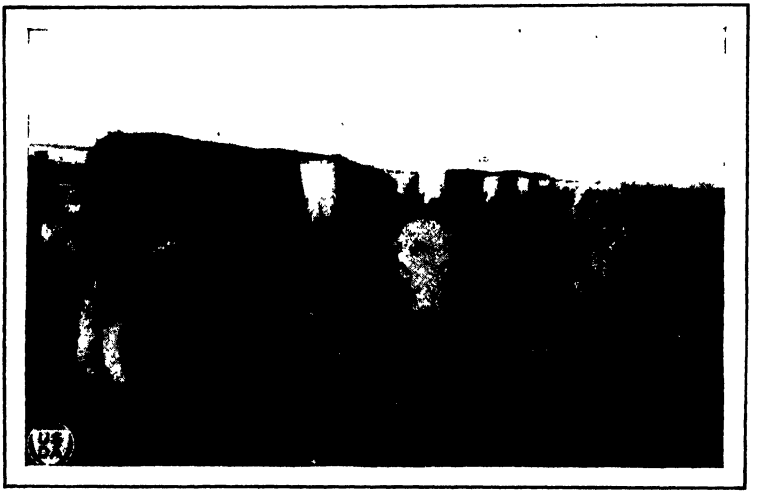
FIG. 41.—Considerable molasses was imported into the United States, mostly for human consumption, as early as 1875, but the imports decreased to almost nothing in the late nineties. During the past 10 years the importations have very greatly increased. These imports, however, are mostly black-strap molasses, which is used principally for stock feed and the production of alcohol. Nearly all of this black-strap molasses comes from Cuba. Small quantities of molasses are imported from Santo Domingo and the British West Indies. Some of this molasses is fit for human consumption.

Natal a satisfactory motor spirit is obtained by the distillation of fermented molasses, and in many countries rum is made in large quantities. When the market price of molasses is low it is sometimes mixed with bagasse and used as fuel and sometimes put back on the land as fertilizer.

A number of by-products peculiar to beet manufacture are of such value as stock feed that stock raising has become a profitable adjunct of the industry. After the saccharine matter is extracted from the sliced beets in the sugar factory a fibrous mass remains which is known as pulp. This is fed either wet as it comes from the factory or as dried pulp. Wet pulp is used largely by beef and dairy cattle and by sheep. It is consumed almost entirely near the sugar factories, Fig. 42.

Many of the beet factories have equipment for drying the green pulp. The moisture is reduced from 95 per cent to 12 per cent without injury to the feeding value. Dried pulp can be shipped satisfactorily and is becoming a popular feed. Various experiments have demonstrated that dried beet pulp compares favorably with corn. Dried beet pulp produces larger gains in growing animals, but corn makes more rapid gain during the finishing period. Dried pulp has given good results when fed to the various classes of livestock at the following rates per day: Fattening steers (1,000 pounds), 6 pounds; dairy cows, 4 pounds; horses, 3 pounds; fattening sheep, 1 pound; and hogs, 1 pound.

Wet pulp is especially suitable for feeding old ewes and cattle. Ten times the weight of that given for dried pulp may be fed in wet form. Wet pulp which is fed either fresh, as it comes from the fac-



CATTLE EATING SUGAR-BEET TOPS.

FIG. 42.—Sugar-beet pulp and tops are excellent feeds for livestock, especially for dairy cows. These feeds are most economically fed in large strong troughs.

tory, or in the fermented state, as it comes from silos, is usually too bulky for younger animals.

Beets are purchased by the sugar companies with the tops and crowns removed, because certain salts accumulate in the crown which interfere with the recovery of sugar from the juices. The tops and crowns are left in the field at harvest time and later are either pastured or gathered and fed as forage or used for silage. In the sugar-beet producing areas of Colorado, Idaho, and Utah these tops are fed largely to sheep and cattle. The tops are palatable, but because of their cathartic character must be fed cautiously. The best way to feed beet tops is in the form of silage. The silage is succulent and palatable and makes a desirable ration when supplemented with some legume, hay and grain. The cathartic properties of the beet tops are largely corrected in the fermentation process in the silo. Beet-top silage has given good results in both beef and mutton production.

Waste lime is used to some extent as fertilizer, but most of it is discharged into the sewage ditches.

The bagasse from cane mills was formerly too wet for burning under boilers. At the present time it is so completely extracted by modern mills that, with the addition of a small quantity of crude oil, it supplies the fuel needs of most plants, and sometimes there is an excess. This material is also used in the manufacture of cheap paper, insulating material, wall board, packing material, etc. The ash from bagasse contains large amounts of phosphates and potash and is usually returned to the soil as fertilizer. Filter press cake, rich in nitrogen and phosphates, is also used for fertilizer.

The green cane tops are fed to cattle in many cane countries, particularly to carabaos in the Orient, but up to the present this material is not extensively used for feed in America. It may be satisfactorily used as silage. While the cane-top silage has not proved as satisfactory as that from corn, soybeans, sorgo, and cowpeas, it is a valuable feed in many areas where the latter crops can not be grown successfully. In some countries where, owing to overpopulation, the struggle for existence is more intense than here, the dead cane leaves and trash are carefully gathered and used as fuel for cooking.

World Production and Movement of Sugar.

The production of sugar forms a part of the agricultural economy of nearly every important country of the world. Since the cane is a tropical plant and the beet is at home in the temperate zones, sugar is produced in commercial quantities in every continent, and from Natal and Argentina in the Southern Hemisphere to Canada and Sweden far to the north (fig. 43).

The reported world production increased very rapidly in the years just before the World War, and in 1912–13 reached 20,700,000 short tons. In the next seven years, in spite of the war and subsequent unsettled conditions, the minimum production was 17,700,000 short tons in 1919–20, with a maximum of 19,600,000 tons in 1917–18.

In 1921–22, and again in 1922–23, the world sugar output was in round numbers 20,000,000 short tons. But while the total production has remained so remarkably constant, there has been a radical shift in the chief resources of supply (fig. 46). In 1912–13, 9,000,000 tons, or 45 per cent of the world's supply of sugar, was produced in continental Europe, which not only supplied its own demand and that of Great Britain but exported considerable quantities to the United States and the Near East. Following the war in 1919–20, the European production was less than 3,000,000 tons, or 17 per cent of the world production, and even in 1922–23 Europe has produced only 4,500,000 tons, or 23 per cent of the total. Germany and France are now importing more sugar than they export, and only Czechoslovakia has any considerable surplus for export. The United Kingdom, with its large demand for foreign sugar, has been obliged to turn to Cuba, Java, and other producing centers in the Tropics (fig. 44).

This shift in production has also meant a shift from beet sugar to cane sugar. In the five years just preceding the World War, out of an average world production of 18,400,000 short tons, 8,500 000 tons, or 46 per cent was beet sugar. In the five years since

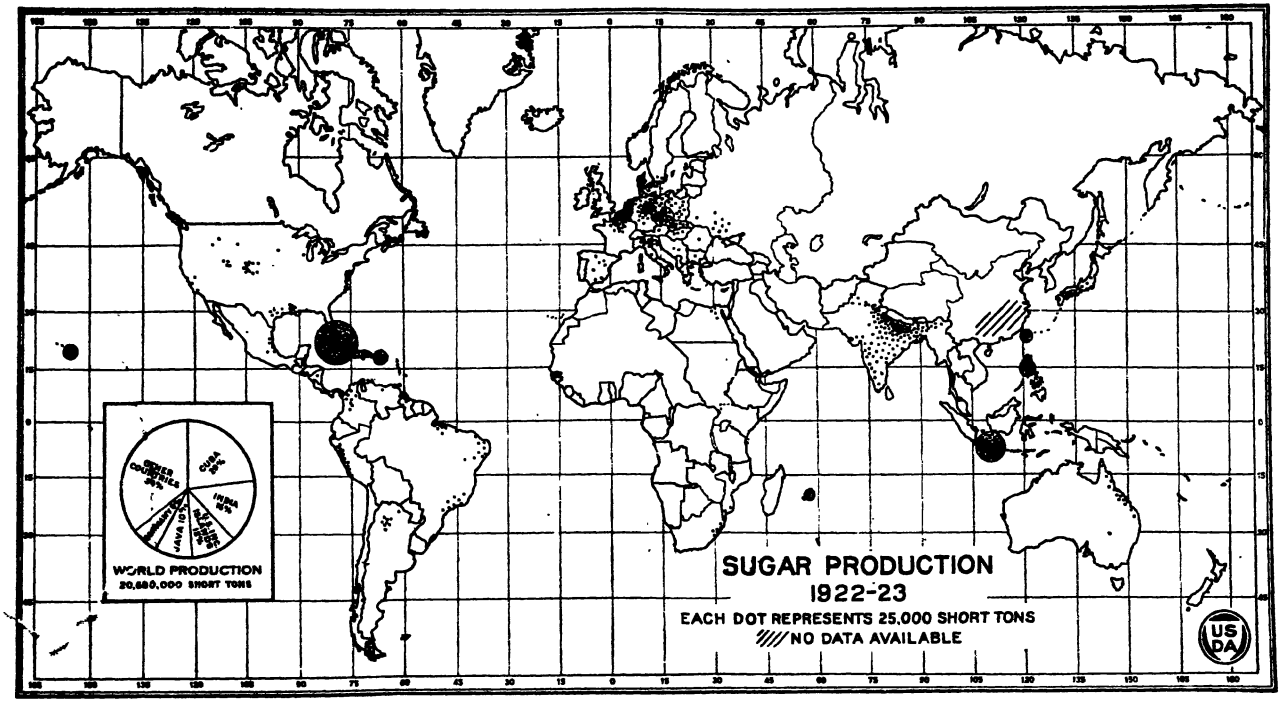


FIG. 43.—The production of sugar is widespread throughout the world. Cane sugar is produced in tropical and subtropical zones and beet sugar in temperate latitudes as far north as Sweden. Since the beginning of the World War sugar production has increased most rapidly in tropical countries, particularly in Cuba. Over one-fifth of the world's sugar is produced in Cuba. The United States and insular territories produce nearly one-seventh.

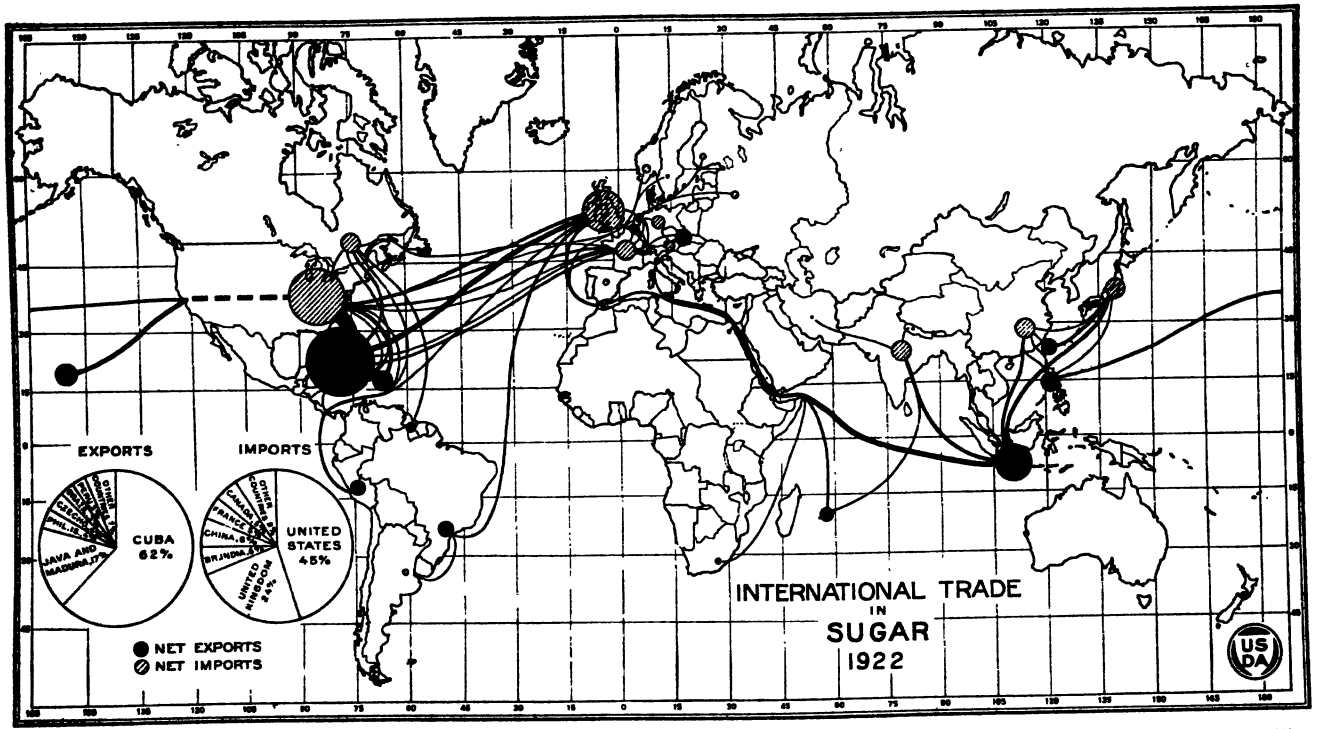


FIG. 44.—The two largest sugar-exporting countries are Cuba and Java, with secondary sources of supply in Hawaii, the Philippines, Porto Rico, Czechoslovakia, Formosa, Brazil, and Peru. The United States and the United Kingdom are the most important sugar-importing countries, followed in importance by British India, China, France, and Canada. The United States imports sugar from Cuba to supplement the domestic supply and shipments from its insular territories, while the United Kingdom and western Europe import more largely from Java and the minor surplus countries.

the close of the war, with an average world production of 18,800,000 short tons, only 4,750,000 tons, or 25 per cent, was produced from beets. This shift may be shown by a comparison of two countries. Germany and Cuba. Germany in 1909–10 to 1913–14 produced an average of 2,296,000 short tons of beet sugar, while in the same years Cuba produced an average of 2,295,000 short tons of cane sugar. In the years 1918–19 to 1922–23, Germany produced an average of 1,220,000 tons, while Cuba produced an average of 4,350,000 tons (fig. 46).

Since Europe had relied so largely upon beet sugar, the sudden change to a cane sugar basis found the importing countries of Europe lacking in adequate cane-sugar refineries. Therefore, much of the cane sugar destined for European consumption has been refined in the United States, and appears in the trade statistics as

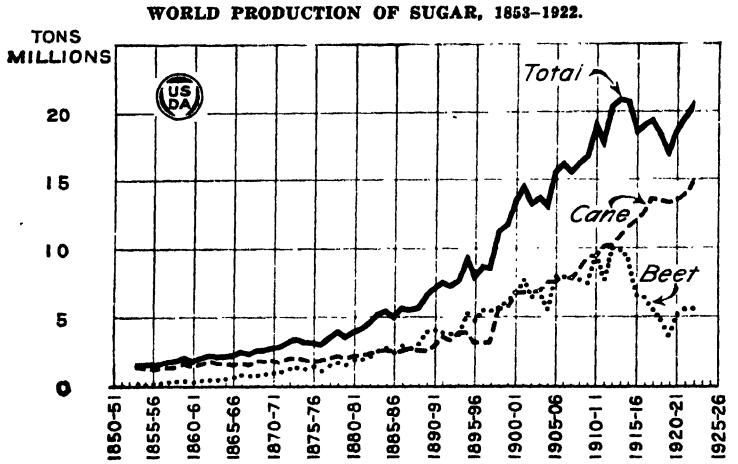


FIG. 45.—The commercial production of sugar first became important in the last half of the nineteenth century. Production increased rapidly until 1914, when it was checked by the World War. Beet-sugar production, at first unimportant, was stimulated by bounties and tariffs and was approximately equal to that of cane sugar from 1884 until 1914. Since 1914 cane-sugar production has continued to increase, while beet sugar has declined in relative importance to less than one-third of the total sugar supply of the world.

exported from the United States to Europe. Consequently, the sugar exports of the United States increased from an average of 80,000 tons in the years 1909–1913 to an average of 650,000 tons in the four years 1919–1922, thereby making the United States in these years not only the largest sugar-importing country, but the third largest sugar-exporting country, exceeded only by Cuba with exports of 4,200,000 tons, and Java with 1,700,000 tons (fig. 47). Next to the United States, the largest sugar-importing countries in the years 1919–1922 were the United Kingdom, France, Canada, British India, and China. (See corner graph of fig. 44.)

The sources of the net sugar supply of the United States, making allowance for raw sugar imported and later exported as refined sugar, were for the years 1918–1922, inclusive, approximately as follows: Cuba, 50 per cent; domestic beet, 18 per cent; Hawaii, 11.4

per cent; Porto Rico, 8.2 per cent; domestic cane, 4.7 per cent; Philippine Islands, 2.7 per cent; other sources, 5 per cent (fig. 48). In the fiscal year ending June 30, 1923, the dutiable imports of

SUGAR PRODUCTION IN PRINCIPAL SUGAR-PRODUCING COUNTRIES, 1890–91 TO 1922–23.

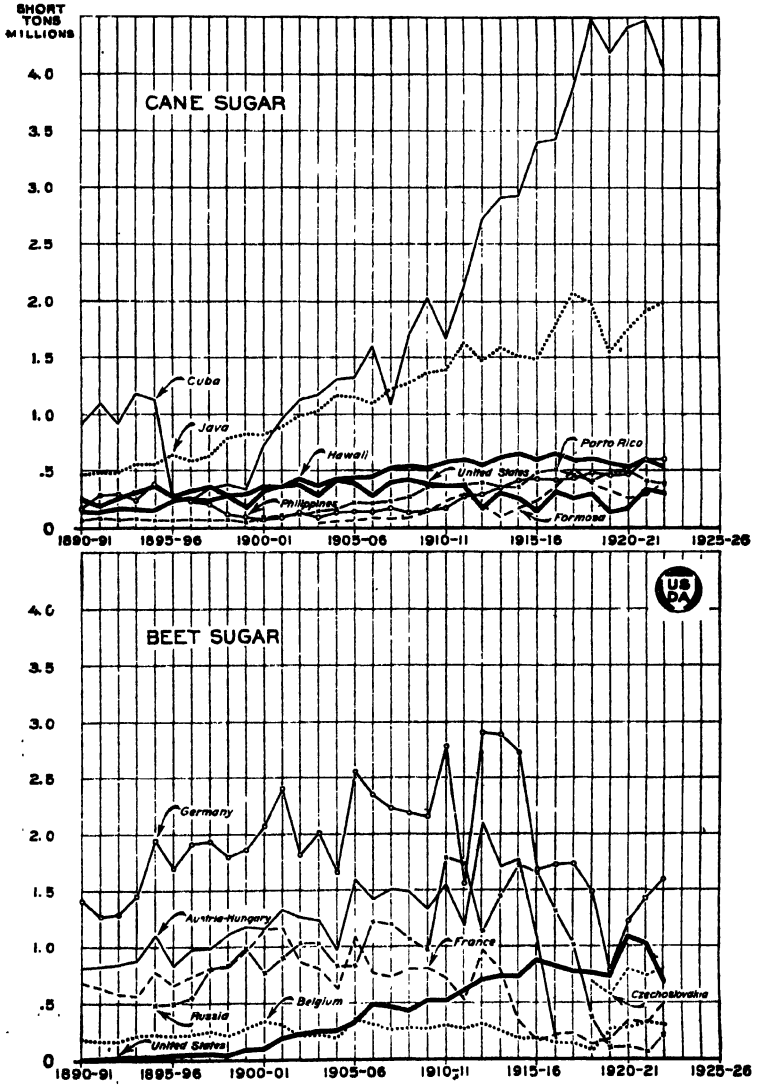


FIG. 46.—The great increase in cane-sugar production in the last 25 years has been chiefly in Cuba and Java. The Philippines, Hawaii, Porto Rico, and Formosa have also increased their production. The average production of cane sugar in the United States increased until 1908 and has since declined slightly. The production of beet sugar has either declined in recent years, or advanced but slightly in every country except the United States, which in 30 years has advanced from small beginnings to the third position among the beet-sugar producing countries of the world.

IMPORTS AND EXPORTS OF SUGAR, CONTINENTAL UNITED STATES, YEARS ENDING JUNE 30, 1875–1922.

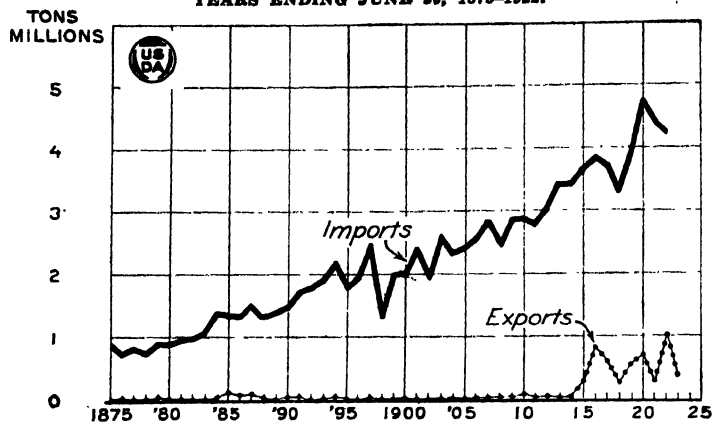


FIG. 47.—While the amount of sugar imported into the United States has varied somewhat from year to year, the general tendency has been toward larger importations from decade to decade. Sugar exports were very small until about 1914. Since that date the sugar exports have been larger. The exports of sugar consist mostly of shipments to the United States for refining to be later reshipped.

sugar into the United States amounted to 3,929,000 short tons, of which 3,865,000 tons came from Cuba. In addition, 277,000 tons were imported without tariff duties from the Philippines; 598,000 tons were brought in from Hawaii; 355,000 tons from Porto Rico, and 5,000 tons from the Virgin Islands. These amounts added to the domestic production of 970,000 tons give a total gross supply

SOURCES OF SUGAR SUPPLY OF THE CONTINENTAL UNITED STATES.

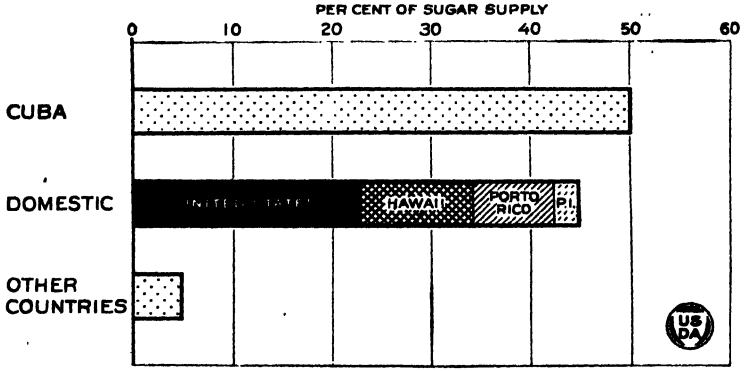


FIG. 48.—In the five years from July 1, 1917, to June 30, 1922, the sources of the sugar supply of the United States were varied. In these years 50 per cent of the net supply was obtained from Cuba, 22.7 per cent was produced in continental United States, 11.4 per cent came from Hawaii, 8.2 per cent from Porto Rico, 2.7 per cent from the Philippine Islands, 0.8 per cent from Dominican Republic, 1.6 per cent from Central and South America, and 2.5 per cent from other countries, of which Java was the most important. Under normal conditions the United States receives practically no sugar from foreign countries except Cuba.

for the year of 6,134,000 tons. The exports in the same period were 391,000 tons, leaving 5,743,000 tons for consumption, or 29 per cent of the world's supply.

Price and Consumption of Sugar.

Cuban sugar has long been the controlling factor in the United States sugar market. Prices of raw sugar and of refined sugar in the United States during the last 21 years have closely paralleled the price of raw sugar in Cuba. Except for abnormal foreign demand, as in the later years of the World War, the price of sugar in Cuba has in turn been dominated by the Cuban sugar supply.

The parallel upward trend of production and price, as shown in Figure 49, indicates that the demand for Cuban sugar has expanded as rapidly as production has increased. The upward trend in the general price level has also contributed to the rise in sugar

PRICES AND SUPPLY OF RAW SUGAR IN CUBA, 1904–1923.

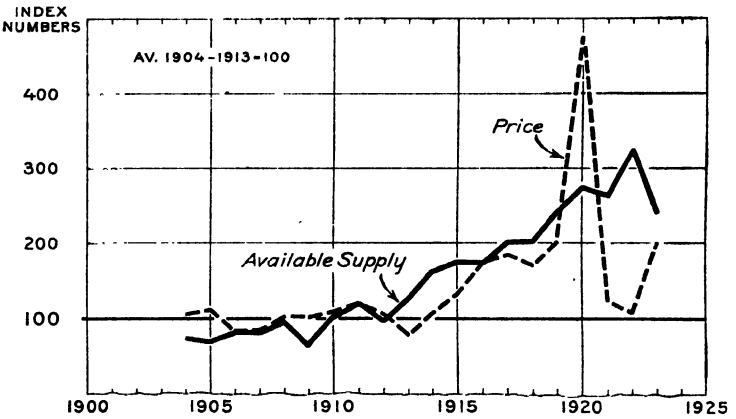


FIG. 49. Both price and supply of sugar in Cuba show an upward trend since 1904. This trend was apparent before 1914, but production in subsequent years was greatly stimulated by the high prices of the war years. If we disregard this upward trend, the inverse correlation between price and supply is apparent, the price tending to be low when the supply is large.

prices. The high peak of supply shown for the grinding year 1922 (including, as usual, about one month of the preceding calendar year) was due to an abnormally large carry-over from the previous crop which, owing to the collapse of the raw sugar market, had not been moved. The drop in the supply from 1922 to 1923 is due not solely to the actual decline in production, but as well to the moving of these large accumulations of stocks. It is important to note in this connection that there is no measure of unconsumed stocks of sugar in the channels of trade except in Cuba and at refiner's ports in the United States. It should not be assumed, therefore, that all of the sugar statistically accounted for as consumption was necessarily actually consumed in the year.

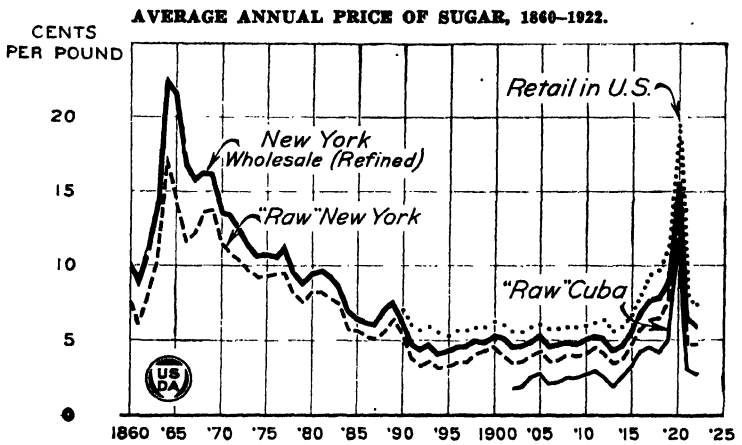


FIG. 50.—Sugar prices rose sharply from 1861 to the peak of 1864, then declined steadily until 1892 and remained at a practically constant level until 1914, when they rose again to the peak of 1920, falling rapidly in 1921 and 1922 to near the pre-war level. The margin in price between raw and refined became narrower during the period of declining prices, but has been a fairly constant proportion of the price of raw sugar since 1885. The curves of wholesale and retail refined sugar and raw sugar in Cuba and New York are all closely parallel, except that the retail margin rose to 4 cents in 1920. The retail margin is usually only about 1 cent a pound, which is less than that of almost any other food.

The close parallel normally maintained between the price of raw sugar in Cuba and raw and refined sugar in the United States is shown in Figure 50. While the general trend of both consumption and price in the United States has been upward during the last 21 years, the quantity of sugar apparently consumed per capita has

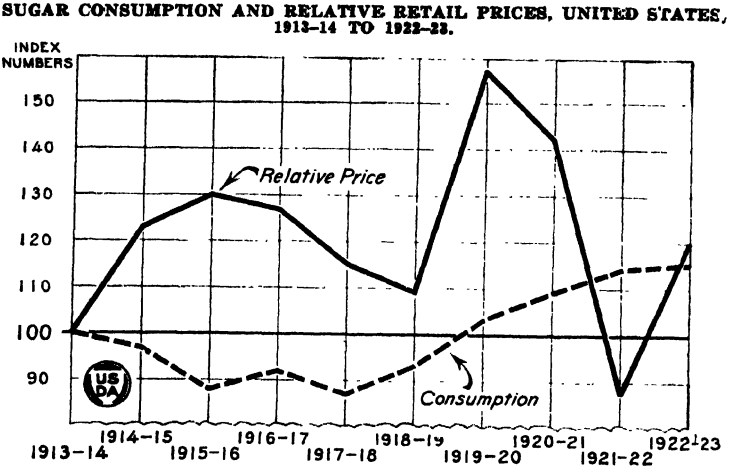


FIG. 51.—Since 1913–14 the consumption of sugar in the United States has generally shown an inverse correlation to the price. The most striking exception to this rule was in the year 1919–20, when prices increased so rapidly that people were led to speculate in sugar and hoard it in anticipation of still higher prices. It is probable that the recent increase in sugar consumption is to some extent a result of the adoption of the prohibition amendment.

been generally lowest in years in which retail sugar prices have been highest relative to the prices of all foods. The per capita consumption amounted for the first time to as much as 104 pounds in 1921–22, when the average retail price of sugar was relatively lowest. The outstanding exceptions to this relationship, shown in Figure 51, were in the fiscal years 1919–20 and 1922–23. It the pre-war market with restrictions on consumption and price relaxed, and with uncertainty as to supplies, the apparent consumption for the year 1919–20 increased to a new record even while retail prices of sugar averaged fully 50 per cent higher than the retail prices of all foods. And again in 1922–23, when apprehension of impending shortage resulted in a relative price of sugar fully one-third higher than in the preceding year, consumption per capita was barely checked at the same level.

Sugar Legislation.

Among the factors influencing sugar production in the United States the tariff was mentioned. For one reason or another taxes have been levied on imported sugar since the early days of the Republic. The first act relative to tariff on sugar was passed by Congress in 1789, before sugar had been made in this country and many years before it had become an important commercial product. Sugar was considered a luxury in those days and the tax was purely a luxury tax designed for additional Government income. Sugar was placed on the free list in 1792, but this act was repealed in 1794, and since then an import duty has been collected on all sugar from foreign countries, gradually becoming an almost traditional policy of protection for the American sugar industry. On account of the enormous quantities of sugar still imported into this country and on which full preferential duty is paid, the Government receives no inconsiderable income. From the standpoint of the producer, legislation has been more or less favorable, varying greatly with different administrations, all of whom, however, acted on the presumption that protection was necessary for the survival of the industry. In 1890 an act was passed giving producers of sugar a bounty of 2 cents per pound under certain conditions. This was repealed in 1894. The question of tariff has lately become very complicated due to conflicting interests of producers both at home and in insular territories and protectorates, refiners and consumers. In 1876 an act was passed admitting sugar from the now Territory of Hawaii free of duty, and by proclamation of the President, sugar from Porto Rico was placed on the free list July 25, 1901. In 1902, import duty on sugar from the Philippines was fixed at 75 per cent of existing foreign rates, and since 1913 sugar actually produced in the Philippines has been admitted free of duty. In 1903 import duty on sugar from Cuba was reduced to 80 per cent of that from other foreign countries. In view of the importance of this legislation, it seems appropriate to include a list of tariff acts of the United States which have been passed mostly for the protection of the sugar industry (Table 15).

TABLE 15.—*Rates of duty on imports of sugar under the tariff acts, 1789–1922.*

Date of act (and when effective).	Rates of duty.
July 4, 1789 (Aug. 1, 1789)...	Brown, 1 cent per pound; loaf, 3 cents per pound; other 1½ cents per pound.
Aug. 10, 1790 (Dec. 1, 1790)..	Brown, 1½ cents per pound; loaf, 5 cents per pound; other 2½ cents per pound.
May 2, 1792 (July 1, 1792)...	All sugar free.
June 5, 1794 (Oct. 1, 1794)...	Refined, 4 cents per pound.
June 7, 1794 (July 1, 1794)...	Clayed or lump, 1 cent per pound.
Jan. 29, 1795 (Apr. 1, 1795)..	White clayed or white powdered, 3 cents per pound; other clayed or powdered, 1½ cents per pound.
Mar. 3, 1797 (July 1, 1797)...	Brown, ½ cent per pound.
May 13, 1800 (July 1, 1800)..	Brown, 1 cent per pound.
July 1, 1812 (July 1, 1812)...	Existing rates doubled until one year after the war.
Apr. 27, 1816 (July 1, 1816)..	White clayed or powdered, 4 cents per pound; lump, 10 cents per pound; loaf, 12 cents per pound; brown, 3 cents per pound.
July 14, 1832 (Mar. 4, 1833)..	White clayed, 3½ cents per pound; brown, 2½ cents per pound.
Mar. 2, 1833 (Jan. 1, 1834)...	Existing rates exceeding 20 per cent to be reduced to 20 per cent by yearly reductions to July 1, 1842.
Aug. 30, 1842 (Aug. 31, 1842).	Raw and brown clayed, 2½ cents per pound; other, not refined, 4 cents per pound; refined, 6 cents per pound.
July 30, 1846 (Dec. 2, 1846)..	All kinds, 30 per cent.
Mar. 3, 1857 (July 1, 1857)...	All kinds, 24 per cent.
Mar. 2, 1861 (Apr. 2, 1861)...	Brown (muscovado), white and clayed, unrefined, ¾ cent per pound; refined, 2 cents per pound; refined, tinctured, colored, adulterated, 4 cents per pound.
Aug. 5, 1861 (Aug. 6, 1861)..	Brown and sugars not advanced above No. 12 Dutch standard, 2 cents per pound; above No. 12, not refined, 2½ cents per pound; refined, 4 cents per pound; refined and tinctured, 6 cents per pound.
Dec. 24, 1861 (Dec. 25, 1861).	Brown and sugars not above No. 12 Dutch standard, 2½ cents per pound; above No. 12, not refined, 3 cents per pound; refined, 5 cents per pound; refined and tinctured, 8 cents per pound.
July 14, 1862 (Aug. 2, 1862)..	Not above No. 12, 2½ cents per pound; above No. 12 to No. 15, 3 cents per pound; above No. 15 to No. 20, 3½ cents per pound; above No. 20, 4 cents per pound; refined and tinctured, 10 cents per pound.
Apr. 29, 1864 (Apr. 29, 1864).	Existing rates increased 50 per cent for 60 days.
June 30, 1864 (July 1, 1864)...	Not above No. 12, 3 cents per pound; above No. 12 to No. 15, 3½ cents per pound; above No. 15 to No. 20, 4 cents per pound; above No. 20, 5 cents per pound; refined and tinctured, 15 cents per pound.
July 14, 1870 (Jan. 1, 1871)..	Raw not above No. 7, 1½ cents per pound; above No. 7 and other sugars not above No. 10, 2 cents per pound; other sugars above No. 10 to No. 13, 2½ cents per pound; other sugars above No. 13 to No. 16, 2¾ cents per pound; other sugars above No. 16 to No. 20, 3½ cents per pound; all sugar above No. 20 and all refined, 4 cents per pound.
Dec. 22, 1870 (Dec. 22, 1870).	All sugar not above No. 7, 1½ cents per pound; above No. 7 to No. 10, 2 cents per pound; above No. 10 to No. 13, 2½ cents per pound; above No. 13 to No. 16, 2¾ cents per pound; above No. 16 to No. 20, 3½ cents per pound; above No. 20 and refined, 4 cents per pound.
Mar. 3, 1875 (Mar. 4, 1875)...	Rates of December 22, 1870, increased 25 per cent; melada hereafter to be "sugar" dutiable according to the rates for the Dutch standard.
Aug. 15, 1876 (Sept. 9, 1876).	"Sandwich Island sugar" free.
Mar. 3, 1883 (July 1, 1883)...	All sugars not above No. 13 and melada, beet and cane juice, etc., testing by polariscope not above 75°, 1.4 cents per pound; for each degree over 75°, 0.04 cent per pound additional. All sugar above No. 13 to No. 16, 2.75 cents per pound; above No. 16 to No. 20, 3 cents per pound; above No. 20, 3.5 cents per pound; refined, tinctured, etc., 10 cents per pound.
Oct. 1, 1890 (Apr. 1, 1891)...	Bounty to United States producers to July 1, 1895, sugar not below 90° by polariscope from beets, sorghum, sugar cane, and maple sap, 2 cents per pound; below 90° and not below 80°, 1½ cents per pound. Duties—all sugars above No. 16, 0.5 cent per pound; not above No. 16, and melada, sirups of cane juice, etc., free; refined, tinctured, etc., 5 cents per pound.
Aug. 27, 1894 (Aug. 1, 1894).	Bounty law repealed. All sugars, melada, sirups of beet and sugar cane, etc., 40 per cent; all sugars above No. 16 and all discolored sugars, ½ cent per pound additional.
July 24, 1897 (July 24, 1897).	Sugars not above No. 16, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 0.95 cent per pound; for each additional degree 0.035 cent per pound additional; above No. 16 and all sugar which has gone through a process of refining, 1.95 cents per pound; refined and tinctured, 4 cents per pound and 15 per cent; maple sugar and sirup, 4 cents per pound.
Apr. 12, 1900 (Apr. 12, 1900)..	Shipments from Porto Rico to United States: 15 per cent of existing rates.
Apr. 30, 1900.....	Territorial Government of Hawaii established and any dutiable article the growth, production, or manufacture of that territory may enter United States free.
July 25, 1901.....	Shipments from Porto Rico to United States free. (Proclamation by President.)
Mar. 8, 1902 (Mar. 8, 1902)...	Imports from Philippine Islands of articles grown and produced there, 75 per cent of existing rates. (Ceased Aug. 6, 1909.)
Dec. 17, 1903 (Dec. 27, 1903)..	Imports from Cuba of products of soil or industry of that country, 20 per cent below existing rates. Not subsequently repealed.
Aug. 5, 1909 (Aug. 6, 1909)..	Sugars not above No. 16, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 0.95 cent per pound; for each additional degree, 0.035 cent per pound additional; above No. 16 and all sugar which has gone through a process of refining, 1.9 cents per pound; refined and tinctured, 4 cents per pound and 15 per cent; maple sugar and sirup, 4 cents per pound. Rates apply to Philippine Islands to this extent, imports of sugar in any fiscal year exceeding 300,000 gross tons.

TABLE 15.—*Rates of duty on imports of sugar, etc.*—Continued.

Date of act (and when effective).	Rates of duty.
Oct. 3, 1913 (Mar. 1, 1914)...	Sugars, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 0.71 cent per pound; for each additional degree, 0.026 cent per pound additional; on and after May 1, 1916, free. Maple sugar and sirup, 3 cents per pound; on and after May 1, 1916, free. All articles the growth or product of the Philippine Islands, free.
May 27, 1921 (May 28, 1921).	Sugars, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 1.16 cents per pound; for each additional degree, 0.04 cent per pound additional.
Sept. 21, 1922 (Sept. 22, 1922).	Sugars, melada, sirups of cane juice, etc., testing by polariscope not above 75°, and all mixtures of sugar and water testing above 50° to 75°, 1.24 cents per pound; for each additional degree, 0.046 cent per pound additional; refined sugar, tinctured, 40 per cent. Maple sugar and sirup, 4 cents per pound. From Philippine Islands, if grown or produced there, free. All rates subject to change by President after investigation of cost of production, domestic and foreign.

As has been noted, the United States has become one of the principal sugar refining and exporting countries of the world, in addition to being the greatest consumer of this product. A discussion of the duties imposed by foreign countries at the present time therefore possesses interest. Practically all sugar-producing countries have passed laws taxing imported sugar for the protection of their industry; and other countries, almost without exception, have such laws for purposes of revenue. Sugar is, in fact, one of the most universally taxed articles of commerce the world over. It is on the free list in a few unimportant countries, such as the federated and some of the unfederated Malay States, and in free ports, such as Curaçao, Singapore, Hongkong, etc. Internal conditions of industrial competition have raised local differences of opinion in some countries and resulted in bitter controversies on tariff policies. As a case in point, the extensive jam trade of Australia, making use of imported sugar for the manufacture of their product, which is largely exported, comes into conflict with the interests of sugar producers in northeastern Australia. Such instances of internal interests not in consonance on the subject of sugar tariff could be multiplied. In view of its bearing on export of sugar from the United States, a table of custom duties imposed by some foreign countries is appended (Table 16).

TABLE 16.—*Rates of duty on imports of sugar for various countries.*

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
Argentina (law of 1906, as increased 1920): [1]			
Sugar, refined or polarizing 96° and more	9 pesos per 100 legal kilos.	Aug. 7, 1923	3.085
Sugar, unrefined or polarizing less than 96°, including the sack	6 pesos per 100 legal kilos.	Aug. 7, 1923	2.056
Australia (law of 1920):			
Glucose	12 pounds per long ton.	Aug. 13, 1923	2.447
Sugar, produced of sugar cane	9-6-3 pounds per long ton.	Aug. 13, 1923	1.903
Molasses	Free		Free.
Austria: [2]			
Candy sugar	48 gold crowns per 100 kilos.	Aug. 7, 1923	4.376
Other beet and raw sugar	16 gold crowns per 100 kilos.	Aug. 7, 1923	1.458

[1] There is a surtax of 7 per cent of the value.
[2] Duties to be paid in gold.

TABLE 16.—*Rates of duties on imports of sugar for various countries*—Contd.

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
Belgium (law of 1913, as increased 1921):			
Juices and raw sugars, of beet and cane	40 francs per 100 kilos.	Aug. 13, 1923	0.819
Refined sugars			.819
Brazil: [3]			
Sugar, candy	135 milreis per 100 kilos.	do	7.489
Sugar, other	266.8 kilos.		14.826
Canada (law of 1907 amended May, 1921 and 1923):			
All sugar above No. 16, Dutch standard in color, and all refined sugars of whatever kinds, grades, or standards, not covered by tariff item No. 135 [4] (graduated scale increasing by from 2 to 9 cents for each additional degree of polarization)—			
When not exceeding 88° of polarization	1.50 Canadian dollars per 100 pounds.	Aug. 7, 1923	1.4659
When exceeding 98° but not exceeding 99°	1.89		1.8476
Sugar above No. 16, Dutch standard in color, when imported by a recognized sugar refiner, for refining purposes only, under regulations by the Minister of Customs and Inland Revenue; and sugar not specified, not above No. 16 Dutch standard in color, sugar drainings or pumpings, drained in transit, melada or concentrated melada, tank bottoms, sugar concrete, and molasses— [5]			
When not exceeding 76° of polarization	0.8108 Canadian dollars per 100 pounds.		.7915
When exceeding 97° but not exceeding 98°	1.3432		1.312
When exceeding 98°	1.425		1.3926
Chile:			
Sugar not specified, with following saccharose content—			
More than 98 per cent but not over 99½ per cent.	6 pesos per 100 kilos net.	Aug. 7, 1923	.3289
Impure sugar, moist or dry	3		.1640
China: [6]			
Sugar, brown	0.23 Haikwan tael per picul.	do	.1389
Sugar, white	0.32		.1932
Colombia: [7]			
Sugar, muscodado or centrifugal	8 pesos per 100 kilos.	do	3.3883
Refined sugar	12		5.0824
Costa Rica: [8]			
Sugar, "corriente" not refined	16 colons per 100 kilos gross.	do	1.6744
Refined sugar	60		6.2790
Cuba:			
Raw sugar	1.00 dollars per 100 kilos.	do	.45
Refined sugar	0.9375		.421
Czechoslovakia:			
Beet sugar and all sugar of similar kinds (cane sugar) in every condition of purity, except molasses.	338 crowns per 100 kilos.	do	4.4629
Sugar of other kinds, e. g., glucose, starch sugar grape sugar, fruit sugar, milk sugar and the like, sugar for coloring purposes (for coloring beets), etc.			4.4629
Denmark: [9]			
Sugar in loaves, sheets, cakes, and the like, whole, undivided, also powdered sugar with a polarization of over 98 per cent, grape or starch sugar.	10 crowns per 100 kilos.	do	.8253
Powdered sugar with a polarization of over 86 per cent not over 98 per cent.	6.5		.5364

[3] Sacks, gross; other packing 15 per cent tare.

[4] Provided that refined sugar shall be entitled to entry under the British preferential tariff upon evidence satisfactory to the Minister of Customs and Inland Revenue, that such refined sugar has been manufactured wholly from raw sugar produced in the British colonies and possessions, and not otherwise.

[5] Provided that all raw sugar, including sugar specified in this item the produce of any British colony or possession shall be entitled to entry under the British preferential tariff, when imported direct into Canada from any British country.

[6] Custom duties to be paid in Haikwan tael.

[7] There is a surtax of 7 per cent of the duty with an additional surtax of 10 per cent of total import duty which includes the surtax. Exchange is given as per quotation of Apr. 18, 1923.

[8] There is a surtax of 2½ centavos per gross kilo; also a surtax of 2 per cent of the duty in all Provinces except Limon, where it is 5 per cent of the duty. Duty is per gross weight.

[9] Duty is per legal weight.

TABLE 16.—*Rates of duties on imports of sugar for various countries*—Contd.

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
France—foreign sugar:			
Raw, intended for refining, the estimated yield in refined being 98 per cent or less.	99.75 francs per 100 kilos net.	Aug. 7, 1923	2.5596
Others, raw, the estimated yield in refining being 98 per cent or less.			
Germany:[10]			
Cane, beet, and other sugar of the chemical composition of cane sugar (saccharose) refined.	Free.	do.	Free.
Other, solid and liquid, of all kinds, sirup and molasses, beet-root juice, maple juice.			
Greece:[11] Sugar, of all kinds (cane and beet), made from fruit or starch, and sirup derived from sugar.	68.965 gold drachmas per 100 okes.	Aug. 1, 1923	4.467
Hungary (law of 1916):[12]			
Beet sugar and sugar of a similar kind (cane sugar) in every condition of purity, except molasses.	16 gold crowns per 100 kilos.	May 5, 1923	1.4587
Molasses	Free		Free.
Italy (law of 1921):[13]—sugar:			
(*a*) First class	18 gold lire per 100 kilos.	July 27, 1923	1.5633
(*b*) Second class	12		1.0422
Japan (law of 1912)—sugar:			
1. Under No. 11, Dutch standard	2.50 yen per 100 kin...	Aug. 1, 1923	.922
2. Under No. 15, Dutch standard	3.10		1.436
3. Under No. 18, Dutch standard	3.35		1.236
4. Under No. 21, Dutch standard	4.25		1.568
5. Other	1.65		1.715
Latvia:[14] sugar (gross weight):			
1. Half manufactured sugar, pounded or ground, except powdered sugar, without pieces of all kinds.	20 Lat or Latvian gold francs per 100 kilos.	Aug. 7, 1923	[15] 9
2. Refined loaf and powdered crystal sugar, and in pieces.			
Lithuania: Sugar, articles not specially mentioned	10 per cent ad valorem	do.	10 per cent ad valorem.
Mexico (law of 1916, as increased 1922):[16] Common sugar.	15 pesos per 100 kilos gross.	do.	3.2579
Netherlands:[17]—sugar:			
(*b*) Loaf, lumps and not specified	22.50 florins per 100 kilos net.	Aug. 1, 1923	3.98
(*a*) Raw, of 98 per cent purity and over	22.50		3.98
(*d*) Raw, of less than 98 per cent purity, for every degree of purity * * * but the duty shall not be less than 0.15 florins per 100 kilos net.	.225		.039
Norway:[18]—sugar and sirup:			
Sugar of all kinds, including dissolved and liquid sugar and juice from which sugar has been separated.	22 to 88 crowns per 100 kilos ad valorem.	Aug. 7, 1923	1.610 to 6.442
Common sirup and molasses with a sugar content of less than 70 per cent ad valorem.	Free to 55 per cent.		Free to 55 per cent ad valorem.
Peru:[19] Refined sugar	20 sols per 100 kilos net.	do.	3.717
Poland:[20]			
Raw sugar	35 marks per 100 kilos.	do.	.7796
Refined sugar	40		1.0038
Portugal:[21]—sugar:			
Above No. 20 Dutch standard, net	1.8 to 3 escudos per 100 kilos.	May 5, 1923	0.8752 to 1.4586.
Not specified, net	1.5 to 2.5		0.7293 to 1.2155.
Rumania:			
Raw sugar and sirup and glucose	150 leu per 100 kilos...	Aug. 7, 1923	0.3287
Refined sugar	300		0.6775

[10] Import permit required.
[11] Duties are paid in gold. When paid in paper, duties on sugar are to be multiplied by 6.
[12] Duties to be paid in gold or in paper at current exchange.
[13] Sugar temporarily imported free of duty until further notice (by cable of May 14, 1923). Duties to be pad in gold.
[14] No rates of exchange could be obtained Aug. 14, 1923.
[15] Latvian gold francs per 100 pounds.
[16] There is an additional surtax of 12 per cent of the duty. Duty is per gross weight.
[17] Domestic industry protected by royal edict imposing restrictions on sale of foreign and Javan sugar for domestic consumption.
[18] The minimum rates are applied to imports from the United States.
[19] Surtax at Callas are 19 per cent of duty; at Salaverry, Paite and Pisco and Talara. 20 per cent of duty: all other parts of Peru 18 per cent of duty. Duty is per gross weight. Exchange is given as per last quotation, Dec. 13, 1922, 10 sols is approximately 1 libre, for which quotations are given.
[20] When paid in paper current, coefficient is applied.
[21] Duties are paid in gold. Minimum rates are applied to imports from the United States.

TABLE 16.—*Rates of duties on imports of sugar for various countries*—Contd.

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
Russia: [22]			
1. Sugar, raw, crushed or ground, of all kinds	2.50 gold rubles per	Aug. 7, 1923	3.530
2. Sugar, refined, lump and candy	4.00 pood.		5.649
Spain: [23]			
Sugar	180 pesetas per 100	do	11.3481
Glucose	180 kilos net first tariff.	do	11.3481
Sweden (law of 1911):			
Sugar, refined, all kinds; e. g., in the form of loaves, candy and cakes, also crushed or pulverized.	10		1.1965
Unrefined, not darker in color than No. 18 Dutch standard, which is generally recognized in commerce, and specimens of which are to be supplied by the customs administration to the various customhouses.	10 crowns per 100 kilos net.	do	1.1965
Of a color darker than the standard above mentioned, even if imported in solution or in liquid state.	7		0.8375
Switzerland:			
Sugar, unrefined	2		0.1625
Sugar, crystallized and crushed, solid glucose, and sugar candy.	7 francs per 100 kilos	do	0.5688
United Kingdom—Graduated scale increasing by from 10 to 46 cents for each additional degree of polarization:			
Not exceeding 76° of polarization	0-12-4 pounds per 112	do	2.5123
Exceeding 97° and not 98° of polarization.	1- 3-8 pounds.	do	4.829
Venezuela: [24]			
Sugar, muscovado or brown	25 bolivar per 100 kilos	do	2.009
Sugar, white or refined	75	do	6.027

[22] All imports are under license. Duties are paid in paper at official conversion rates.
[23] The second tariff is one-half rate of first tariff. The lower rates apply to goods from the United States.
[24] There is an additional surtax of 56.55 per cent of duty. Exchange is given as per last quotation, Sept. 5, 1922.

The Outlook For the Sugar Industry in the United States.

The total acreage devoted to cane in the United States for both sugar and sirup does not exceed 500,000 acres, while the acreage devoted to cane for sugar production alone does not normally exceed half of that area. While sugar-cane culture for sugar is limited climatically to the lower portions of the States bordering on the Gulf of Mexico, the area under cultivation is capable of considerable expansion even with the present varieties of cane. Production of cane for sirup, not so sharply delimited by climate, could be greatly increased if justified by demand; and attention to the technical problems involved in insuring a uniform product would no doubt result in an increasing demand. The production of sugar in Porto Rico has reached the point where fluctuation in acreage planted from year to year will depend largely on the market price of the product. The marked correlation between price and acreage during the past five-year period seems to indicate that price is the main factor governing the variations in production. In the Hawaiian Islands also this factor, together with availability of labor, is largely responsible for the annual fluctuations in the acreage planted to cane. The total area of the islands is not large, and most available land is already utilized for this purpose. Pineapples, the chief competitive crop, are fre-

quently grown on land that might be used for cane, but agricultural interests in general would be best served by maintaining this diversity of products. In the Philippines, on the other hand, great tracts of land which appear to offer every natural advantage for cane culture remain undeveloped.

Particularly on the island of Mindanao opportunities for agricultural development seem very great, and attention has been recently directed toward the possibility of growing sugar cane, rubber, cinchona, cassava, and other crops as well. With the steady increase in the world's consumption of sugar it becomes apparent that potential sources of supply ought not be overlooked, and investigation of the practicability of sugar-cane culture on this island, which is almost as large as Java, is desirable and justified. The labor problem in such a thinly populated region would have to be met by importation of laborers from neighboring islands, or by the use of transient coolies.

In the Western States sugar beets occupy only a small percentage of the acreage of suitable soils in those localities in which beets are grown, and no doubt they could be grown in many sections where they have not been introduced. The agronomic possibilities for extending sugar-beet growing in the North Central States seem very great, since there is a large acreage of dark soils in that section of the United States similar to those now used for this crop. In addition to the sugar-beet States listed in Table 17, parts of several other States lie within the climatic zone suited to sugar-beet production, as is shown in Figure 18.

TABLE 17.—*Land in crops and acres in sugar beets in the present sugar-beet States, 1919.*

State.	Land in crops, 1919.	Irrigated area, 1919.	Area in sugar beets.	Sugar-beet acreage, percentage of.		Beet-sugar factories.
				Acreage of all crops.	Value of all crops.	
	Acres.	*Acres.*	*Acres.*	*Per cent.*	*Per cent.*	*Number.*
California	6,850,805	4,219,040	88,257	1.29	1.47	10
Colorado	5,416,712	3,348,385	165,840	3.06	9.61	15
Idaho	2,797,943	2,488,806	37,334	1.33	2.16	6
Illinois	21,462,852	.....	2,830	.01	.04	1
Indiana	13,223,256	.....	4,119	.03	.09	1
Iowa	21,609,534	.....	7,009	.03	.06	1
Kansas	22,843,587	47,312	1,682	.01	.01	1
Michigan	10,000,611	.....	106,450	1.06	2.92	16
Minnesota	17,149,813	.....	3,509	.02	.05	1
Montana	3,924,337	1,681,729	8,600	.22	1.16	1
Nebraska	19,432,145	442,690	54,486	.28	1.12	4
Ohio	13,934,239	.....	33,561	.24	.63	5
South Dakota	15,313,006	100,682	1,106	.01	.04	.....
Utah	1,071,160	1,371,651	93,359	8.72	17.31	18
Washington	4,251,170	529,899	5,363	.13	.22	2
Wisconsin	10,265,998	.....	12,737	.12	.33	4
Wyoming	1,210,250	1,207,982	9,935	.82	3.36	3
Other States	184,674,316	3,753,540	275	.....	.....	.....
Total	375,431,734	19,191,716	636,434	.17	.45	89

It is not to be assumed that all of the improved land in the sugar-beet States, nor the land in crops, is capable of producing satisfactory yields of sugar beets; but if even 10 per cent of the crop

area is suitable for sugar-beet culture, there is a wide margin for the further development of the sugar-beet industry.

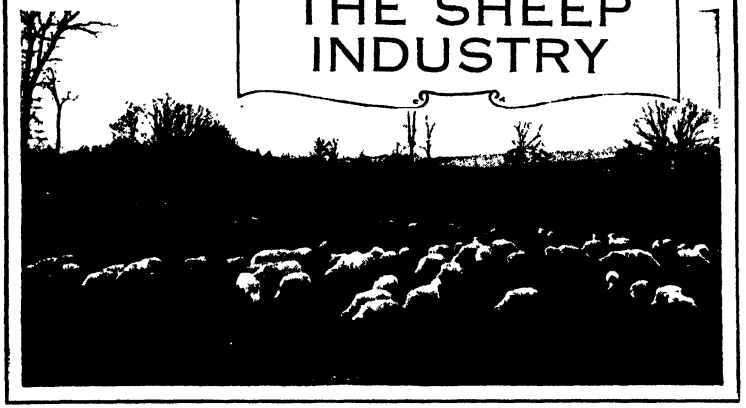
Increase in the production of sugar from both cane and beets is not necessarily limited to extension of the cultivated area. Improved methods of cultivation and improvement of the plants by breeding and selection offer possibilities which have not as yet been fully investigated for all regions. In some regions where accurate records have been kept over a long series of years, the benefits to be derived from breeding have been clearly demonstrated. A pronounced increase in yield has been obtained in this way in Java with cane and in Germany with beets. Such results have been obtained elsewhere, but in lesser degree. It becomes increasingly difficult to evolve better types of plants as the upper limit of production is approached, and it is to be expected that progress will be slower and slower. Rapid increase in production would follow the application of this method in regions where it has been neglected, and such regions include much of our own territory.

In general, the natural conditions of soil and climate in American cane and beet regions can not be considered the factors which limit expansion of the sugar industry. The limiting factors appear to be economic rather than agronomic. Labor supply, market price, crop competition, and assurance of protection are among the important factors which govern the production of sugar in the United States and its insular possessions. The American farmer, accustomed to the use of labor-saving machinery, is loath to perform the large amount of hand labor necessary for successful growing of sugar crops. The problem of securing and holding an adequate supply of labor on cane plantations in the South must be solved before any increase in production can be expected. The solution may lie in small-farm production by owners rather than by day labor under supervision. Such a system, however, puts difficulties in the way of coordination of effort so necessary for successfully conducting the large-scale plantation and mill operations.

Sugar-beet and sugar-cane culture will be expanded only when more profitable than the other crops with which these sugar crops must compete. Competition of other cash crops for the land is more severe in the beet regions, where long-time rotations are practiced, than on the cane plantations, where the other crops are largely consumed or utilized on the plantation.

The outlook for sugar production in the United States is further affected by the production of sugar in other countries and the competition of this foreign-grown sugar in our markets. It may be truthfully stated, however, that no sugar-producing country is without its own peculiar problems, which are frequently very different from ours, but just as difficult of solution. They tend to curtail production, or increase the cost of production, which from the standpoint of capital invested amounts to the same thing. Since no country can be considered ideal for sugar production, the more successful ones in the future will be those which give the greatest attention to systematic and intelligent study of the factors limiting production.

THE SHEEP INDUSTRY



By D. A. Spencer, M. C. Hall, and C. D. Marsh, *Bureau of Animal Industry;* J. S. Cotton, C. E. Gibbons, O. C. Stine, O. E. Baker, V. N. Valgren, R. D. Jennings, and G. K. Holmes, *Bureau of Agricultural Economics;* W. B. Bell, *Bureau of Biological Survey;* and Will C. Barnes, *Forest Service.*

SHEEP HUSBANDRY is one of the most important, as well as one of the oldest, of the world's agricultural enterprises. Wool ranks next to cotton in importance among the fibers and has played probably a more important part than cotton in the spread of civilization. The wearing of clothes made from wool, which is a nonconductor of heat and does not readily absorb moisture, has made it possible for man to withstand the rigorous winters that prevail over much of the earth's surface. The present world production of wool is only about 2 pounds per capita. As most of the people living within the Tropics use but little of this commodity, the supply available to the people living in the colder regions is somewhat larger. The American people are among the heaviest users of wool, the annual per capita quantity being over 5 pounds.

From the dawn of history the flesh of sheep has been an important item of food for man. Lamb and mutton are among the most healthful, nutritious, and palatable of meats. However, the consumption of these meats varies widely in different countries. In the United States the average annual per capita consumption of lamb and mutton for the 10-year period 1912–1921 was 6.2 pounds; Canada in 1910 averaged 9 pounds; the United Kingdom in the period 1895–1908 averaged 26.7 pounds; France in 1904 consumed 9 pounds per person, and Germany in 1904–1913 only 2.2 pounds per year. In the respective periods mentioned the consumption of lamb and mutton constituted the following percentages of the total meat consumption: 4.35 per cent for the United States, 5.57 for Canada, 22.25 for the United Kingdom, 11.25 for France, and only 1.91 per cent for Germany.

Sheep raising has always been one of the world's leading pioneer enterprises. In the past, sheep kept primarily for the production

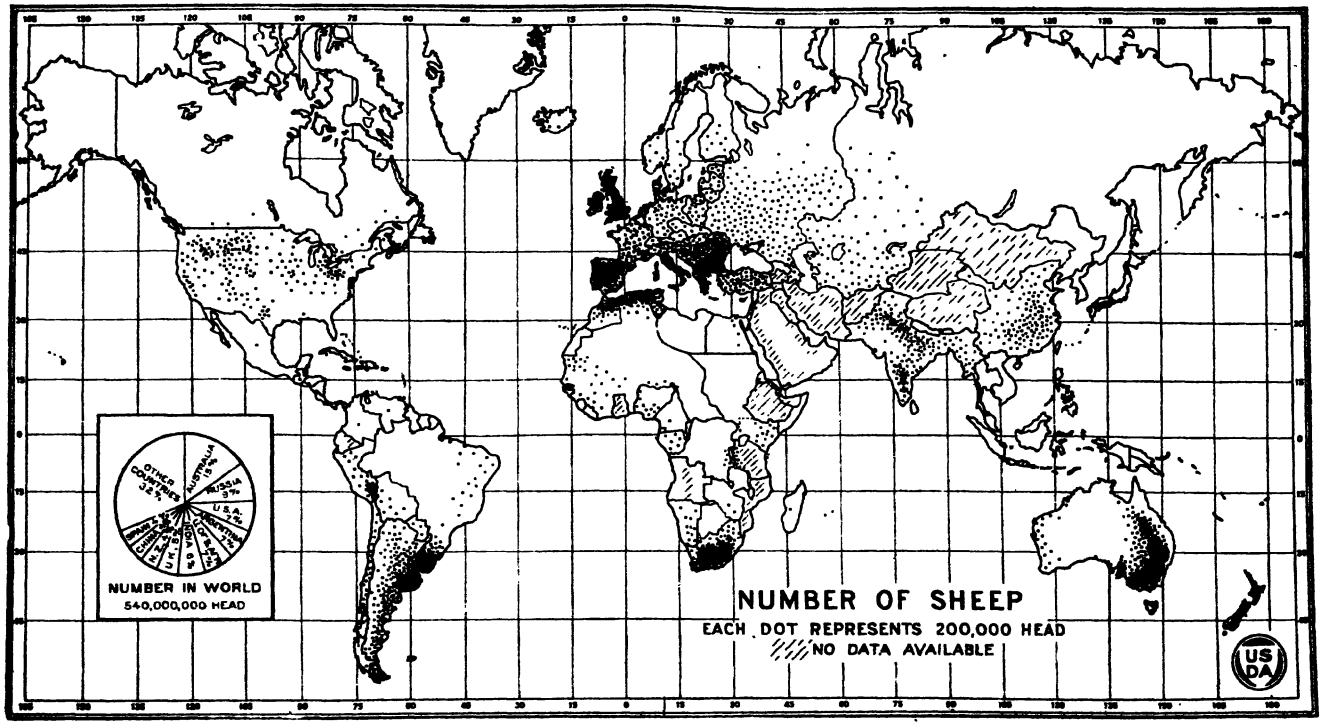


FIG. 1.—The leading sheep-producing countries are Australia, Russia, Argentina, United States, India, Union of South Africa, United Kingdom, and New Zealand. The distribution of sheep in Russia and the United States is less dense than in the other countries. Four of the six densest centers of sheep raising—Australia, the Argentine–Uruguay area, the Union of South Africa, and New Zealand—are in the Southern Hemisphere. These are relatively new lands with sparse population. In the Mediterranean countries topography and climate favor the sheep industry, which is seminomadic in character. In Great Britain the large area of pasture makes mutton and wool production a prominent industry in spite of dense population and high-priced land.

TREND IN NUMBER OF SHEEP IN IMPORTANT COUNTRIES.

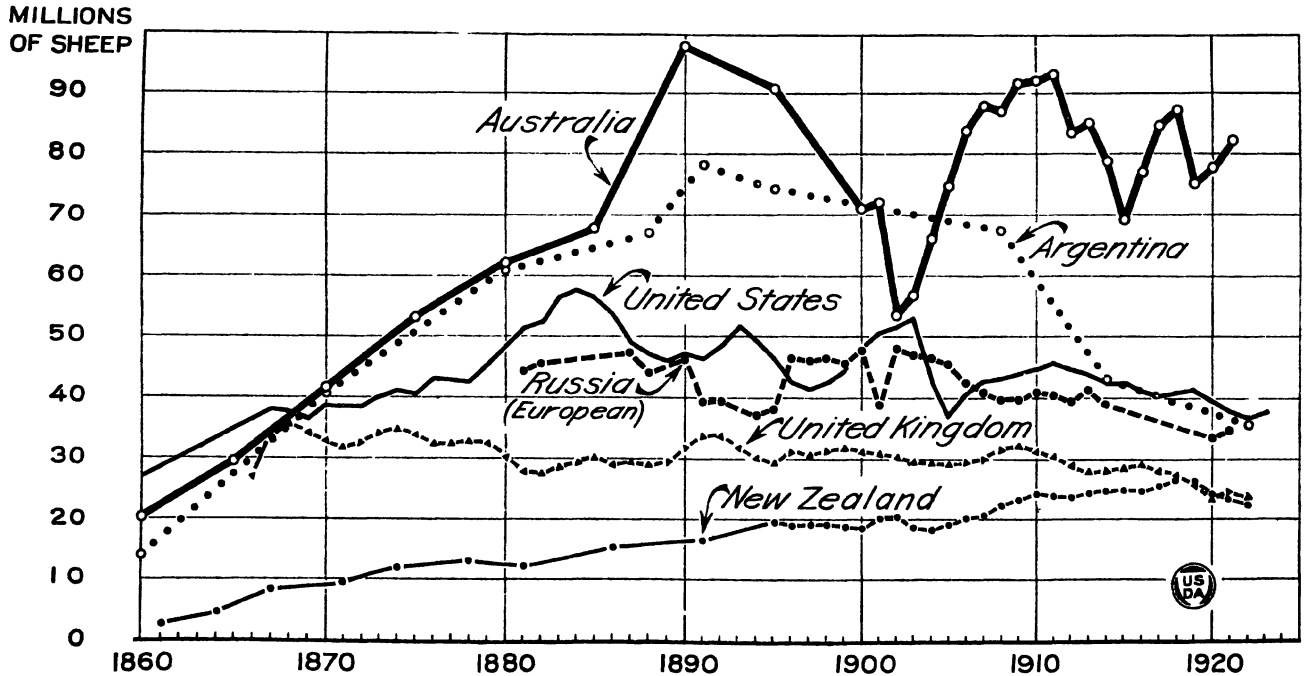


FIG. 2.—In Australia, the greatest sheep-producing country of the world, the number of sheep increased very rapidly from 1860 to 1890. Since 1890 wheat production and cattle raising have been displacing sheep. The sheep industry of Argentina is, likewise, giving way to grain production and cattle raising. New Zealand continued to increase its number of sheep until quite recently, but dairying may soon check further growth of the sheep industry. Russia maintained a large number of sheep before the war, and there is a vast territory in Siberia and eastern Russia presumably suitable for sheep raising. The United Kingdom, despite its dense population, still maintains an important sheep industry.

of wool have been raised very cheaply in regions remote from civilization because, owing to their herding instinct, they could be handled in large bands, and wool could readily be transported for long distances without serious danger of spoilage and at relatively small cost. Although the pioneer phase of the industry is passing, the above factors, together with the adaptability of sheep to a wide range of climatic conditions, their ability to go for several days and even weeks without water when on succulent feed, as well as their fondness for shrubby and weedy types of forage not consumed by most domestic animals, make it possible to keep sheep in regions that would otherwise be unutilized. This is especially true of the arid regions.

In the United States sheep production is of special importance in the grass-producing regions of the Eastern and Central States, particularly in rolling and hilly sections, in the more arid portions of the West, in the rugged range territory adjacent to and including the national forests, and in the fenced range area of southwestern Texas. Sheep are fond of a great many varieties of weeds and underbrush which cattle and horses do not relish; thus they are useful in keeping fields and fence corners clean and in the utilization of farm and range forage not so well adapted to other kinds of livestock. On rugged pasture lands the flock of sheep will always be found on hills or knolls during the hours of rest, so that most of the manure is left in those parts of the field where it is most needed for the maintenance of soil fertility.

World Distribution of Sheep.

Of the six densest areas of wool and mutton production four—Australia, New Zealand, Argentina, and South Africa—are in the Southern Hemisphere. The two remaining centers, the British Isles and the Mediterranean region, are in the Northern Hemisphere (fig. 1).

Australia is about the same size as the continental United States, but has a much larger area that must be devoted to grazing purposes, as the annual precipitation over three-fifths of the continent is less than 15 inches. Sixty per cent of the land area is best adapted to sheep raising. In the semiarid regions where the feed, because of its weedy and shrubby character, is not suited to cattle, and where transportation facilities are inadequate, Merino sheep, which are kept primarily for the production of wool, prevail. In the farming regions the crossbreds (sheep of the fine wool and mutton cross) are very popular, and the growing of mutton for export trade is becoming important. Australia now ranks third in mutton exportation.

As practically all the Crown lands (public lands) suitable for grazing are leased for long periods and in areas sufficient for extensive operation, the Australian flockmasters are on a much more stable basis than are those of the western United States. Australia is, however, subject to severe droughts, and occasionally very heavy losses are sustained from which it usually takes several years to recuperate fully. In parts of the country rabbits are a serious pest, while in other sections prickly pear is destroying much of the range.

New Zealand leads in the production of mutton, its exports averaging about 250,000,000 pounds annually. A luxurious growth of

forage, which is available for grazing purposes throughout the greater part of the year, covers most of the islands. Sheep raising has been the dominant industry in these islands since their settlement. The dairy industry, however, is becoming a strong competitor. The rapid rise in land values in recent years, together with the breaking up of large holdings, has given a great impetus to dairying and it has made a rapid growth.

Most of the New Zealand sheep are kept in regions where the rainfall is less than 50 inches. Considerable use, however, is being made of the western side of South Island, where the rainfall is very heavy, sheep from the east being driven through the mountain passes when the trails are opened in the spring. Sheep are encroaching also on the volcanic plains of the central part of North Island.

In Argentina the number of sheep has declined from a total of 80,000,000 head in 1880 to less than half that number in 1920 (fig. 2).

RELATION OF SHEEP TO POPULATION AND TO LAND AREA IN 11 IMPORTANT COUNTRIES.

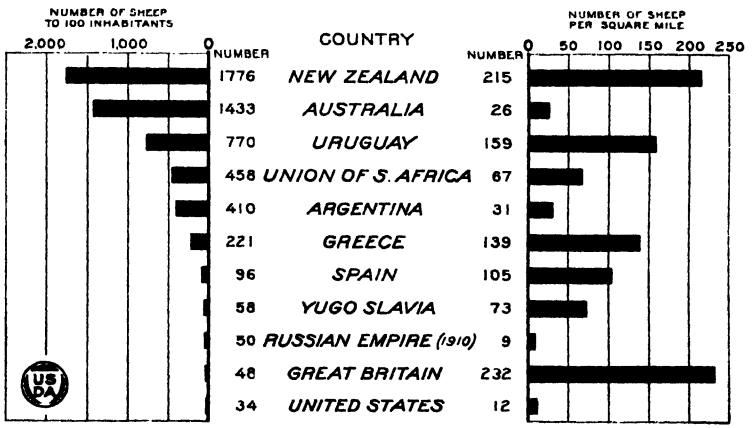


FIG. 3.—The leading countries in the number of sheep for each 100 inhabitants are all in the Southern Hemisphere. These countries are sparsely populated. Great Britain, although densely populated, leads in the number of sheep per square mile, New Zealand standing next. The Balkan States, represented by Greece and Yugo-Slavia, rank high both in number of sheep per inhabitant and per square mile. Spain, the home of the Merino, similarly stands relatively high. Russia, which is second in the total number of sheep, and the United States, which ranks fourth, both have a relatively low number of sheep per inhabitant and per square mile.

For some time past cattle and grain farming have been forcing some of the sheep to the more arid regions to the south and west. The production of fine wool is now largely confined to the arid Provinces of southern Argentina. About 75 per cent of the total sheep in the country are of the mutton types. These mutton types of sheep still occupy a prominent place in the agricultural Provinces. In the Province of Buenos Aires, where nearly 50 per cent of the sheep are located, all of the sheep are of mutton breeding. Argentina stands next to New Zealand in the exportation of frozen mutton.

In British South Africa, except for the coast areas, the rainfall is low and prolonged droughts are common. Most of the rain occurs during the summer, the winter being very dry, especially over much of the plateau area of the interior. For this reason, most of the

land is best suited to grazing purposes and primarily to the production of wool. Practically all of the good land has been under private ownership for many years. The Crown lands are barren areas which, for lack of water, are not capable of carrying stock. Large areas of this land could be made available for sheep grazing by providing watering places and by irrigation. The Merino is the dominant breed.

The United Kingdom is one of the few countries of dense population where sheep still persist (fig. 3). The moist, mild climate is favorable to the production of a luxurious growth of grass, and, as the winters are mild, stock can be grazed most of the year. The agriculture of the islands is largely pastoral, and sheep have occupied a prominent place since a very early date. As the English people have always consumed large quantities of mutton, especial emphasis has been given to the development of mutton types of sheep, this country being the home of the mutton breeds. For many years England sent a constant stream of improved breeding sheep of the mutton type to all parts of the world. Recently there has been a small decline in the number of sheep. They are apparently being displaced by dairy cows needed in the production of milk for urban use.

Although Spain does not stand high in the total number of sheep, it deserves mention because it was the original home of the fine-wool breeds. About the year 1500 Spain and England were the leading sheep countries of the world. Sheep still occupy a prominent place in Spanish agriculture, and the growers still possess grazing rights granted in medieval times. Compelled to migrate from the hot, dry, lowland pastures into the northern mountains each spring to obtain summer grazing, the Merino developed into a very hardy breed with fine quality of fleece, but with poor mutton qualities. The adaptability of this breed to dry, remote range has been an important factor in the demand for Merino blood in newly settled countries.

In the Balkan States and in Asia Minor the arid or semiarid plains and mountain highlands, as well as the more or less nomadic habits of the people, have caused sheep and wool production to occupy an important place among the rural industries.

Russia stands second in total number of sheep, but relatively low in the number per square mile and per capita of population. Little is known concerning the present situation of the sheep industry in that country.

The United States ranks fourth in total number of sheep, but, like Russia, the country taken as a whole stands relatively low in the number of sheep per square mile and per inhabitant. There are, however, areas of dense concentration of sheep, as in the fine-wool section of Ohio, and in portions of the western intermountain region.

Development of the Sheep Industry in the United States.

Sheep were introduced into Virginia in 1609, into Massachusetts about 1630, and are reported to have been introduced into the other Colonies soon after they were founded. Conditions in the Colonies were not favorable for rapid increase in the number of sheep. Predatory animals, Indians, and severe winters made serious inroads on their numbers. At first the few sheep were kept within town

inclosures, or on islands or peninsulas fenced off from the mainland. Wherever sheep ran at large, herders were necessary to protect them. It was customary for one or more herders to take care of the flock of the entire settlement.

Sheep were important to the Colonies of the North as their source of clothing material. The wool was mostly worked up by the family that owned the sheep. Doubtless there was some trade in the wool, some families exchanging their surplus of wool with other families and some making clothing for exchange with others. There was no demand for mutton, except as meat for the family table. In the South cotton took the place of wool to a certain extent in the manufacture of clothing. In the North the sheep were so important that colonial governments did much to encourage the keeping of sheep.

During the eighteenth century the character of the American sheep remained unchanged. Sheep were kept primarily to supply the demand for wool for homespun clothing. In some communities more homespun was produced than was necessary to supply the local needs and the products of this industry entered into commerce to some extent, but there was practically no manufacture of woolen clothing outside the homes. The first woolen mill having more than one loom was established in Hartford, Conn., about 1788. Woolen clothing continued to be imported from England. During the Revolutionary War, when this supply was curtailed or cut off, there was a marked growth in the household industry. This gave a temporary impetus to the keeping of sheep. However, in 1800 the typical farm flock in New England contained from 10 to 20 sheep, which clipped about 2 pounds of coarse wool per head.

After the Revolution woolen goods of British manufacture again appeared on the colonial markets, but by the Embargo Act of December, 1807, and the Nonintercourse Act of 1809, this country again was thrown on its own resources in meeting the domestic demand for clothing. The number of woolen mills began to increase rapidly to supply the grades of clothing better than homespun, which hitherto had been imported. In 1810 it was estimated that there were about 7,000,000 sheep in the United States.

The almost complete stoppage of foreign commerce during the War of 1812 accelerated the growth of wool manufacturing and further increased the price of wool. Between 1810 and 1814 the number of sheep is estimated to have increased from 7,000,000 to 10,000,000 head. After the country reverted to a peace footing, in 1815, foreign manufacturers again flooded the American market with woolen goods. Most of the American factories soon shut down or operated but a part of the time for several years. These adverse conditions were accentuated by the panic of 1819, and the result was a severe depression in the sheep industry of the country.

Soon after 1820 the woolen industry began to improve, and by 1824 it was in a fairly prosperous condition. Although the factory production of coarse woolens had become important by 1830, the largest market for coarse wool still was the home manufacturer. At least half of the domestic wool clip was being used in the household. Poor transportation facilities were an important factor in maintaining the household manufacture of woolen clothing.

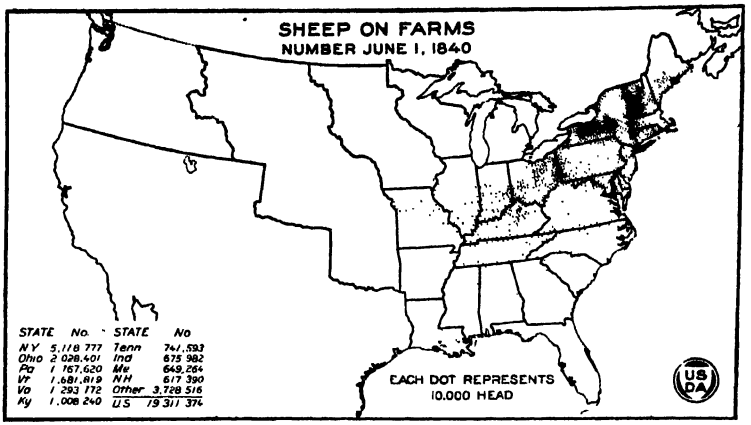


FIG. 4.—The greatest sheep-raising center in the United States in 1840 was in Vermont. Sheep were numerous along the eastern bank of the Hudson River and in western New York, in southwestern Pennsylvania, and eastern Ohio. The blue-grass districts of Kentucky and Tennessee also had a number of sheep. There were only a few sheep in the South and practically none in the western United States as then constituted.

During the period from 1830 to 1837 the woolen mills doubled their output. A general application of power and the use of improved machinery greatly lowered the cost of the manufacture of cloth. The growth of cities rapidly increased the demand for the factory product. As transportation facilities improved, enabling the merchandise of the cities to be carried into the country, the home manufacture of clothing rapidly lost ground.

With the rapid development of wool manufacturing there was a change in the status of the sheep industry. Previously only small flocks had been necessary to supply the home needs for clothing. The factories, however, demanded large quantities of wool, and the prices paid by them induced many farmers to specialize in wool production, especially those farmers who lived in outlying districts.

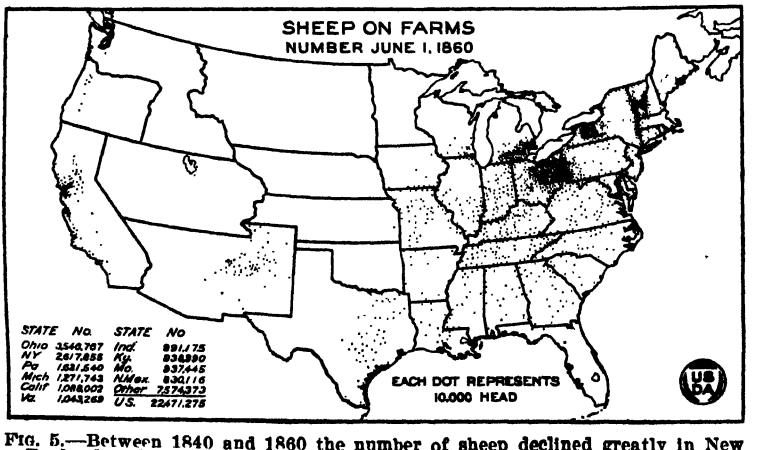


FIG. 5.—Between 1840 and 1860 the number of sheep declined greatly in New England and New York, being displaced largely by dairy cows. Ohio has become the leading State; and several million sheep are found in Texas, New Mexico, and California. The number has also increased several fold in Michigan and the upper Mississippi Valley.

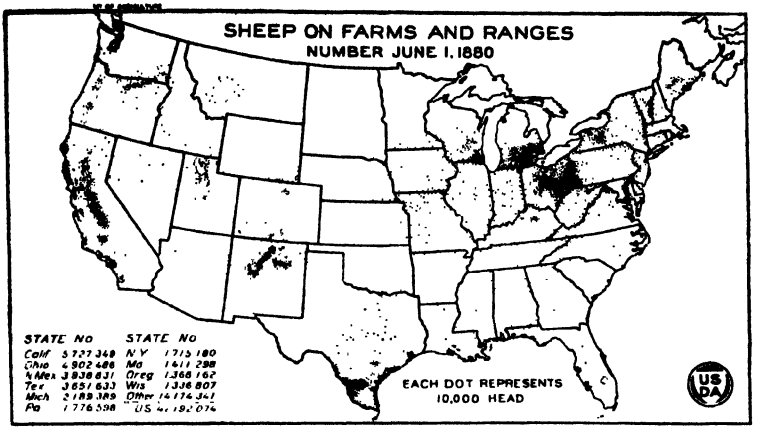


FIG. 6.—Ohio, southwestern Pennsylvania, and southern Michigan constituted the most important sheep-producing region in 1880. The increase in numbers in the far West has been much greater than in the East. Two-fifths of the sheep are now west and southwest of the Missouri River. The decrease in New England and New York continues, whereas the number of sheep in Ohio, Michigan, and Wisconsin has increased.

Wool growing developed rapidly in western Massachusetts, Vermont, and New York in the thirties. It was undoubtedly stimulated by the high prices prevailing between 1830 and 1840. The industry along with other agricultural enterprises, however, suffered from the panic of 1837. The prices of wool began to decline about 1840.

The first accurate figures available relative to the number of sheep are those for 1840, when the census enumerated 19,000,000 head. The greatest center of sheep production was in Vermont. Western New York was also an important center of sheep raising. The industry as yet had not developed to any great extent west of the Alleghanies, although a beginning had been made in southwestern Pennsylvania and in eastern Ohio. (See fig. 4.)

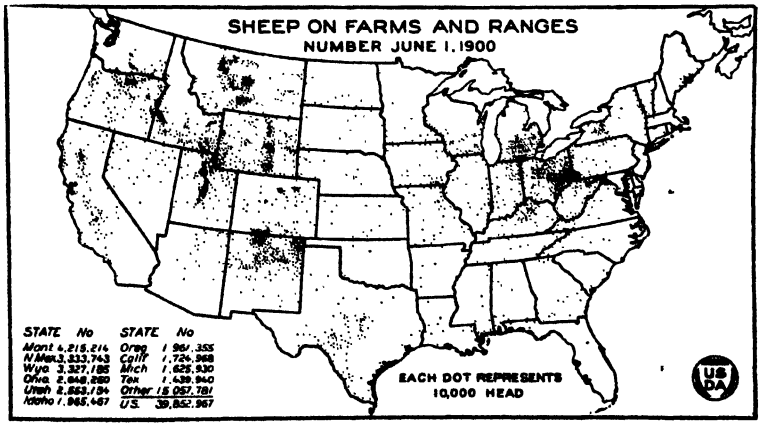


FIG. 7.—In 1900 nearly three-fifths of the sheep were in the western range country. The increase in numbers in the Great Plains and intermountain regions since 1880 has been very great, but the industry began to decline in California and western Oregon soon after 1880. The number of sheep in New England and New York continues to decrease, and a decline has set in also in Ohio and Michigan.

Following 1840 there was a decline in the high prices of farm products that had prevailed during the late thirties. The growing of grain became for the time generally unprofitable throughout the Middle West, where the transportation charges to the East were very heavy. As wool, relative to its value, could be transported easily and cheaply, there was a rapid shifting of the sheep industry from the East to the West. Many sheep raisers moved their flocks from New England to Ohio and Michigan, and some drove on farther west. The sheep farmers remaining in the East reduced their flocks.

The eastern sheepmen also began to turn their attention to the production of mutton as well as wool, particularly after 1850. The change to the mutton type was most rapid near the cities. As the farmers selected and improved the mutton qualities of their sheep the demand for mutton increased. Instead of being a secondary consideration mutton soon became a determining factor in the selection and production of sheep in the East. By 1850 the center of wool production had shifted to the West, and Ohio had become the leading sheep raising State of the Union.

During the decade of 1850–1859, the sheep industry made little progress. In the East the dairy industry continued to displace sheep. However, the increase of the mutton breeds, especially for the production of early lambs, continued quite rapidly. Many mutton-type wethers were fed in the East during the winter to be marketed early in the spring. Sheep for winter feeding were driven east from Kentucky and south from eastern Canada, where mutton breeds were kept almost exclusively. In the West sheep husbandry met with severe competition from other farm enterprises, especially grain production, cattle, and hogs. With the opening up of the European markets shortly after 1845 a considerable export trade in grain developed. This, together with a rapid increase in transportation facilities and the reduction of shipping costs, made farming again profitable.

Where the land was level and easily brought under cultivation, the sheep industry did not succeed in holding its place on the frontier in competition with wheat, corn, cattle, and hogs. Consequently, sheep raising as a pioneer industry passed rapidly across the level prairies to the far West. Sheep have persisted, however, to the present day on the rough or uneven lands of eastern Ohio and southern Michigan. The first development in the far West was the growth of the industry from Texas and New Mexico northward. The sheep industry of New Mexico had been in existence since an early date. As early as 1700, sheep were driven from New Mexico to California. In the expansion of the western industry New Mexico was drawn upon for much of the foundation stock, which has been gradually improved by the introduction of Merino blood. As early as 1860 there were many sheep in both Texas and California (fig. 5).

The first effect of the Civil War was to increase the price of wool and stimulate the sheep industry. This increase in price was due to the demand for woolen goods for military use. Moreover, for a time the supply of cotton from the South was cut off and woolen goods had a monopoly of the clothing market. The number of sheep increased rapidly, not only in the newly developed agricultural regions but even in the old sheep-producing centers of the East.

The war had an opposite effect on hogs and dairying, and some of the producers of these products turned to the production of sheep.

The end of the war, however, caused a crisis in the sheep industry. A sharp decline in the price of wool followed shortly (1866) after the close of the war. With the end of the war cotton began to come back. Large stocks of Army woolens had been accumulated and were offered for sale. There was an oversupply of wool and woolen goods. To add to this situation there was a heavy influx of foreign wools in 1866. On the other hand, the prices of some other commodities improved relatively owing to the restoration of the southern markets. Eastern farmers again turned from sheep raising to other farm enterprises. Large numbers of sheep were driven westward. By 1870 the sheep industry in the Eastern States had declined to about the same condition as in 1860. There had been a great increase in the Southwest and far West. In these regions remote from markets sheep raising still continued to be the most profitable enterprise.

Following 1870 there was a rapid expansion in the far West, where free grazing could be obtained throughout the entire year, so that the only expense was for labor and supplies, and the only investment involved was in the sheep and a camp outfit. This western expansion of the sheep industry continued until most of the range country was overcrowded. The maximum number of range sheep seems to have been reached about 1884, at which time the number in California began to decline (fig. 6). In some sections, however, the maximum number was not reached until much later, Montana reaching its highest number in 1903. The year 1884 also marks the high point of the industry for the United States as a whole. There were reported to have been 50,627,000 sheep, exclusive of lambs, in that year. The decline in the number of western sheep has been due partly to deterioration of the range because of overstocking, but more largely to the settlement of vast areas of grazing lands for farming purposes.

During the period of greatest expansion of the western-range industry wool production also was expanding rapidly in other parts of the world, especially in Australia and Argentina. As it was generally impossible for eastern farmers to compete in wool production with either our West or those countries, most of them were compelled to give up sheep raising or to turn their attention to the production of mutton. The annual exports of wool from Australasia increased from an average of 148,000,000 pounds in the 10 years ended in 1870 to 647,000,000 pounds for the five years ended 1899. The production and exportation of wool from Argentina also increased very rapidly. The price of wool and the price of sheep fell steadily from 1870 to 1896.

By 1900 sheep raising in the East was largely confined to areas where, because of much rough land or soil conditions, most of the farm was kept in pasture, as in southwestern Pennsylvania, eastern Ohio, and portions of Kentucky, southern Michigan, and southern Iowa (fig. 7). Since that date the sheep industry has been subject to severe competition throughout the United States. In the East dairying has continued to make inroads upon the sheep industry, and in those sections of the West where dry farming is important, cattle have replaced sheep to a considerable extent (fig. 8).

The fattening of range sheep for market began in the western part of the Corn Belt and the region tributary to the big flour mills of Minnesota in the early eighties, and developed rapidly during that decade and the one following. At first the business was mostly in the hands of large operators who generally purchased all their feeds. A little later farmers began feeding sheep as a means of utilizing large quantities of roughage, and in the Corn Belt some of their surplus corn. This practice was greatly encouraged by the development of the great packing centers in the upper Mississippi Valley. The far West was shipping sheep to these packing centers, and it soon became evident that it was profitable to give some of these animals a "better finish" before they were slaughtered. In the early stages the sheep were almost wholly wethers. Later, as the demand

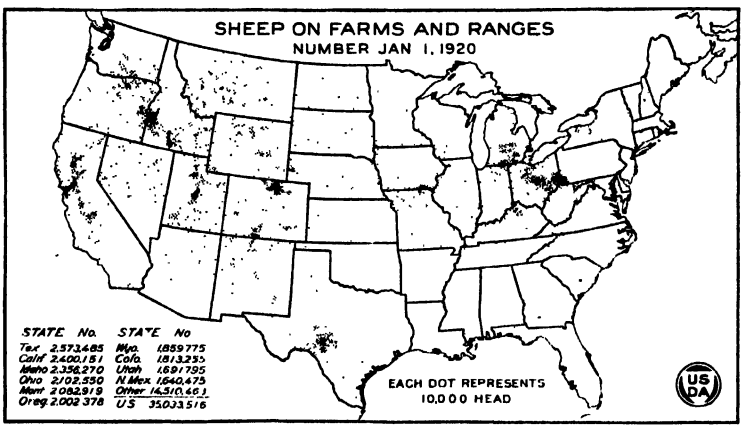


FIG. 8.—By 1920 sheep had largely disappeared from the Atlantic coast. Vermont, which was the densest center of sheep production in 1840, contains only a few thousand head. Large numbers of sheep are still found in the Ohio fine-wool region, in the valleys of the Appalachian Mountains, and in southern Michigan. A notable decline has occurred in the Great Plains region, except in the feeding districts, owing largely to the advance of dry farming.

for lamb increased and the numerous wethers, which were largely unprofitable, disappeared from the range, the feeders turned their attention to the fattening of lambs.

During the recent World War the demand for immense quantities of wool for military uses greatly stimulated the industry. Shortly after the close of the war the allied nations found that they had immense stocks of woolen goods on hand for which there was no further need, while the British and United States Governments also had accumulated large supplies of raw wool, most of which was of the coarser type. This heavy supply did not become burdensome until 1920, when, owing to a falling off in consumption, there was a break in the price of the coarser wools. This was soon followed by a sharp break in the price of all wools during the period of general deflation.

In the spring of 1921 many sheepmen found themselves with a clip of wool on hand, and some, who had held the 1920 clip for better prices, had two clips, for which there was virtually no market. Heavy importations of lambs from New Zealand at this time greatly

depressed the lamb market. A large number of eastern growers, especially those who had taken up sheep production during the war, immediately liquidated their flocks, in some instances causing a severe congestion of mutton on the markets.

The western sheepmen were severely hit. A large percentage of these men had borrowed heavily in order to increase their flocks to war-time needs. The southwestern range men had just passed through a three-year drought period in which there had been heavy losses. The northern men had suffered from an unusually dry summer (1919) which was followed by a severe winter. As they were already in a very precarious condition, the calling of loans in 1920 resulted in many sheepmen being thrown into bankruptcy, while the majority of the remainder were for the most part obliged greatly to curtail

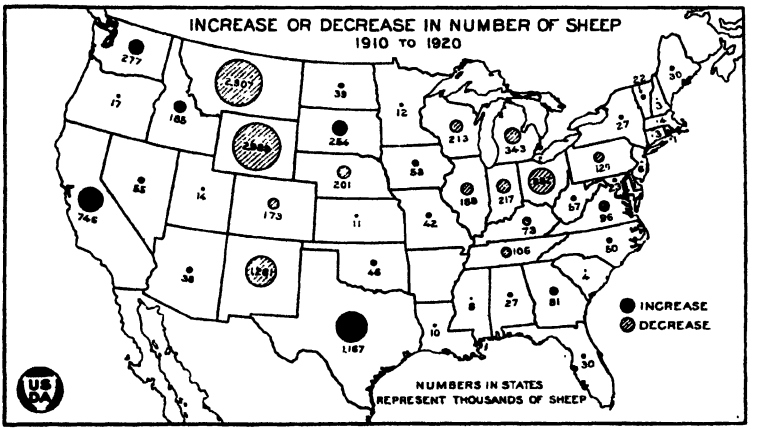


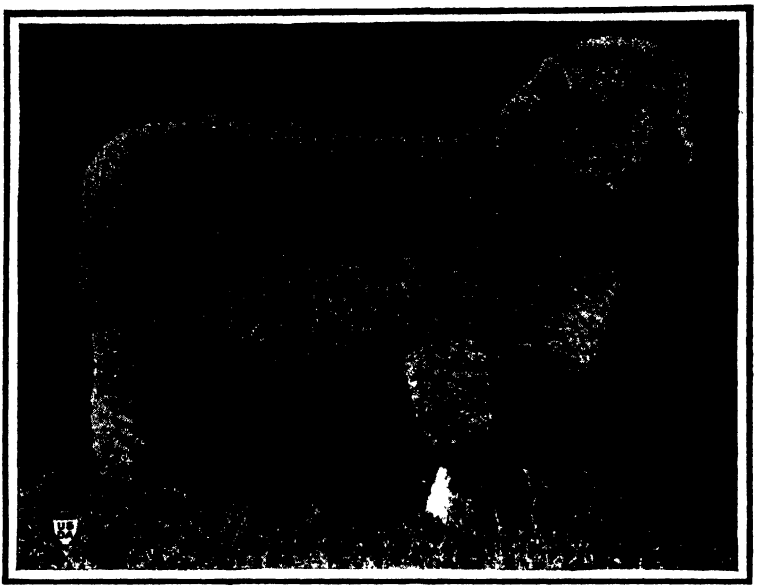
FIG. 9.—The decrease in the number of sheep in the United States is due to several factors. In the more densely populated farming sections the dairy cow has been steadily displacing sheep. The heavy decrease of range sheep in Montana and Wyoming is owing largely to the severe climatic conditions of 1917–1919, and to the rapid occupation of much of the range by homesteaders. In New Mexico a three years' drought (1916–1918) caused heavy liquidation. There was an increase of over 100 per cent in Texas. The number of sheep in Arkansas remained practically unchanged.

their operations. With the passing of the financial stringency, those who were able to survive have gradually been getting on their feet. The accumulated stocks of wool have been used up and the sheep business is again on the upward swing.

In the meantime foreign competition has diminished rather than increased. Other important sheep-raising countries have had experiences similar to that of the United States. Grain farming and cattle ranching are displacing sheep ranching in Argentina and Australia. There remains no important sheep-raising country, excepting possibly South Africa, in which it appears that the number of sheep will increase notably.

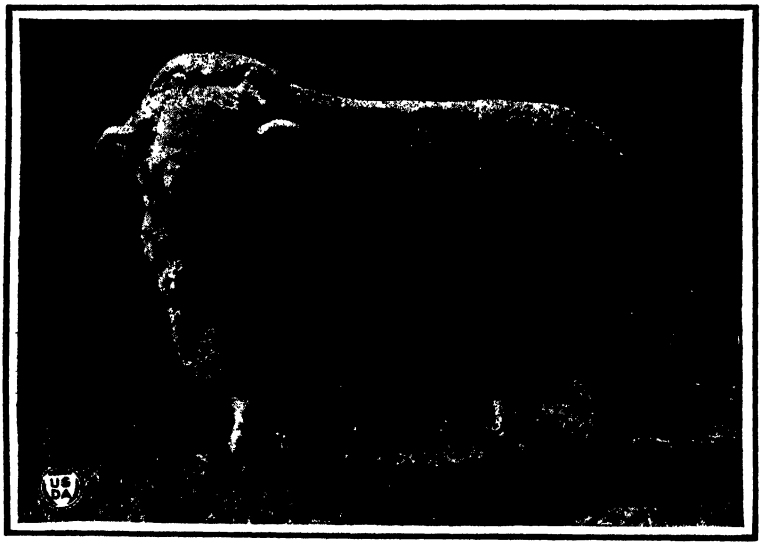
Improved Types of Sheep.

Early in the nineteenth century the demand for fine wool encouraged the development of Merino sheep in the United States. New England, particularly Vermont, became famous for the heavy-shearing, wrinkled type, for in those early days wool was para-



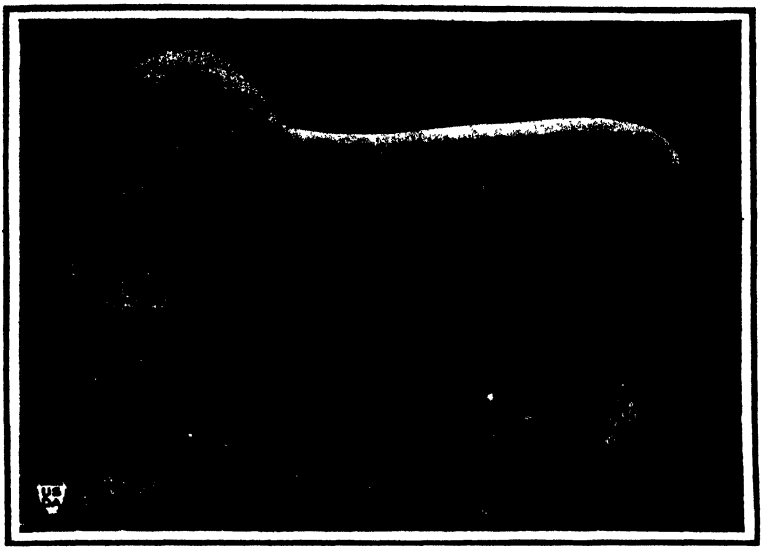
SHROPSHIRE RAM.

FIG. 10.—Shropshire sheep are popular for mutton and wool production on the farm. Shropshires constitute nearly one-third of all the purebred sheep in the country. They are widely distributed over the mutton-sheep-producing areas of the farm States. The northeastern quarter of the country contained three-fourths of all purebred Shropshires in 1920.



RAMBOUILLET RAM.

FIG. 11.—The Rambouillet is sometimes called French Merino, as the foundation of this breed was developed in large measure by the French Government at Rambouillet, France. It is a popular breed in fine-wool regions, both in the East and West, and is the dominating fine-wool breed of the western range. A large percentage of our crossbred range sheep are founded on the Rambouillet.



HAMPSHIRE RAM.

FIG. 12.—Hampshires are bred on both farm and range. Their robust vigor, plump mutton form, and early maturing qualities make them valuable for market-lamb production where feed is abundant. Hampshire rams are used extensively on the western range for mating with crossbred and fine-wool ewes for the production of market lambs to be sold for slaughter direct from the range.

LINCOLN RAM.

FIG. 13.—Lincolns are large mutton-type sheep that produce heavy fleeces of long but rather coarse wool. The common practice on the range of mating Rambouillet ewes with Lincoln rams results in a crossbred type especially valuable for mutton and wool production under range conditions, provided grazing forage is sufficiently abundant for the production of lambs.

mount and mutton a by-product. But as the century wore on manufacturing and population increased rapidly in the East, sheep moved westward and by the close of the nineteenth century a healthy demand for mutton had developed. Wool was then produced at less expense on the western range and the East attempted to meet this western competition by producing more mutton. However, the provision of transportation facilities throughout the country and the continued demand for mutton created the need for a mutton type in the western range country as well as in the farm States. Even fine-wool breeders are now striving for mutton development in the Delaine Merino and Rambouillet. Wool remains important, but mutton is now yielding as much of the returns as wool, and, in many of the farm States, it yields more.

Shropshires (fig. 10) are widely distributed in the farming sections of the North and West, but they are especially popular in the

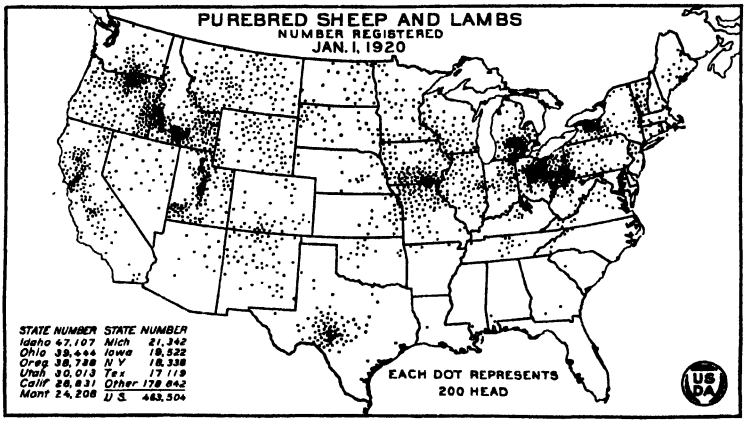


FIG. 14.—In the farm-flock region the purebred sheep business is largely concentrated in the North Central States, notably Ohio and Michigan. In the range area a large proportion of the purebreds are found in the Snake River Valley of Idaho and eastern Oregon and the Salt Lake Valley of Utah.

Corn Belt and Great Lakes regions. In 1920 the Middle Atlantic and North Central States reported 73 per cent of all the purebred Shropshires. Rambouillets (fig. 11) are bred successfully in some of the farm States, notably Ohio and Michigan, but they are more extensively produced in the West. The 12 far western range States reported 90 per cent of all the purebred Rambouillets. Merinos are bred most extensively in the Ohio fine-wool region. The States of Ohio, West Virginia, Pennsylvania and Michigan reported 56 per cent of all the purebred Merinos (chiefly Delaines), and Ohio alone reported 40 per cent of them. They are also bred to quite an extent in Oregon, California, New Mexico, and Texas. Hampshires (fig. 12) are found to some extent in New York, Pennsylvania, Michigan, Missouri, Virginia, and Kentucky, but 59 per cent of the purebred Hampshires were in the 12 western range States. Oxfords were most numerous in the North Central States; Lincolns (fig. 13) in the Mountain and Pacific States; Dorsets near hothouse-lamb mar-

kets in the Middle Atlantic and East North Central; Southdowns in Tennessee, Kentucky, West Virginia, Ohio, Pennsylvania, and New York; Cheviots in New York; Leicesters chiefly in the Northeastern and North Central States: and Suffolks are scattered sparsely in both farm and range States.

As stated above, the Rambouillet has gained a strong foothold on the western range. Much has been accomplished in the development of the mutton tendencies together with the maintenance of heavy-shearing qualities in this breed, and it has proved to be well adapted to hazardous range conditions. In those regions where range forage is sufficiently abundant to produce finished market lambs, Rambouillet and Delaine ewes have been bred to Lincoln and other long-wool rams for the production of lambs that mature for the market at an earlier age and with more pronounced mutton form than would

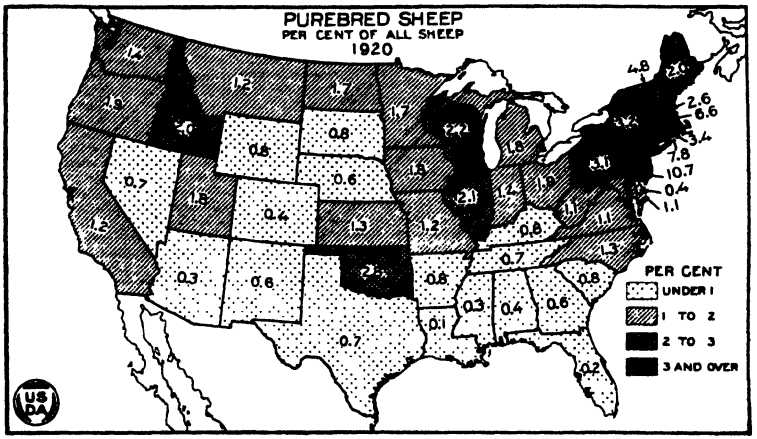
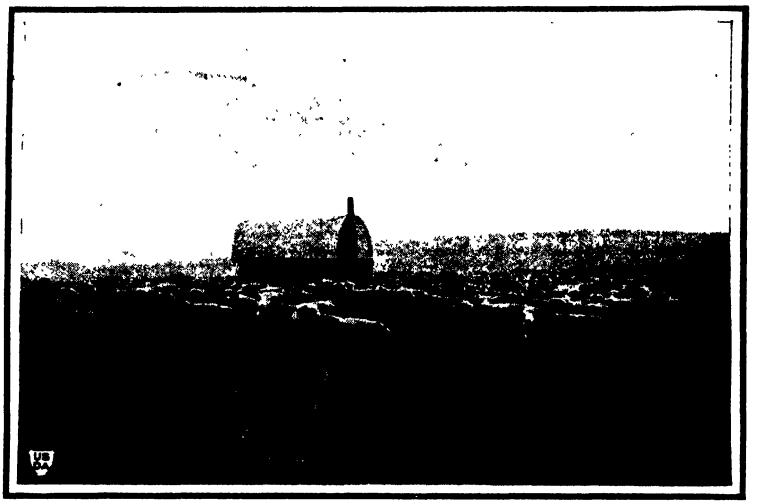


FIG. 15.—The proportion of purebred sheep to all sheep is greatest in the North Atlantic States. According to the 1920 census, 54.1 per cent of all purebred sheep in the United States were of the medium-wool breeds, 42.2 per cent were fine wool, and 3.7 per cent long wool. Shropshires made up 31.5 per cent of the purebreds; Rambouillets, 27.07; Merinos, 15.17; Hampshires, 13.13; Oxfords, 4.20; Lincolns, 3.51; Dorsets, 2.13; Southdowns, 2.12; Cheviots, 0.75; Leicesters, 0.19; and Suffolks, 0.18 per cent.

be possible for the average fine-wool lambs. Moreover, the Lincoln-Rambouillet crossbreds and similar crosses yield heavy fleeces of comparatively light-shrinking wool. This wool is of medium fineness and sells to advantage. During the last 10 years a great deal has been done toward the establishment of this type. Work of this nature, conducted by the United States Sheep Experiment Station, Dubois, Idaho, has resulted in the development of what is known as the Columbia (fig. 16). This has been accomplished by mating Lincoln-Rambouillet crossbred ewes with rams of the same cross. The Corriedale, a similar type of crossbred, which was developed in New Zealand by crossing Lincoln rams on Merino ewes, is now considered an established breed. Some choice Corriedales have been imported into the United States since 1914 for use on western ranges. Another similar crossbred type known as the Panama, which was founded by crossing Lincoln ewes and Rambouillet rams, was

developed in south-central Idaho during the last decade. The use of Hampshire rams on crossbred and fine-wool range ewes has also been extensively practiced, especially in regions having an abundance of forage. Hampshire-sired lambs mature early and on the slaughter market they sell exceedingly well.



CROSSBRED EWES ON THE WESTERN RANGE.

FIG. 16.—These ewes represent the Columbia type, derived from crossing Lincoln rams with Rambouillet ewes. They shear heavy fleeces of readily salable wool of medium fineness; and when mated with rams of their own type or with mutton-type rams they produce lambs that mature for the market more rapidly than fine-wool lambs. Their Rambouillet inheritance furnishes enough of the flocking instinct and rugged constitution to insure adaptability to the range, while the Lincoln blood improves the size, mutton form, and length of staple in the fleece. The camp wagon is the sheep herder's home.

Karakul sheep were introduced from central Asia in recent years for the production of fancy furs in the form of lambskins. They are very few in number and their importation is expensive, but they seem to be adapted to a wide range of conditions, and Karakul lambskins have been in great demand.

Sheep Management.

Sheep management in the United States is divided into three distinct systems; (1) the keeping of small flocks on farms, (2) the running of sheep in large bands to utilize extensive range areas, and (3) the fattening of range sheep on irrigated and Corn-Belt farms.

Farm Flocks.

Eastern farm flocks are most frequently found in the hilly and mountainous regions where much of the land is too rough to farm and must be kept in pasture. In regions distant from large cities, sheep frequently form one of the major farm enterprises. In districts where dairying predominates, they are seldom kept except on farms having an excess of pasture. In the level areas, where most of the land is tilled, farm flocks are rather infrequent. With the ex-

ception of flocks that are kept for the production of purebred stock, it is seldom that any special crops are grown for the sheep. They are generally turned onto pasture as soon as the grass begins to grow in the spring and remain there until the crops have been harvested, when they are usually given the run of the fields to graze on aftermath and clean up the weeds, where they remain until snow comes. They are then carried through the winter on hay and some of the unsalable roughages, receiving little or no grain.

The sheep are kept primarily for the production of lambs, and are mostly of the mutton breeds, Shropshires predominating. Most of the lambs are born in the early spring when the pastures begin to grow, and are generally marketed in September and October, about the time the pastures begin to fail. There is a decided tendency to give the sheep insufficient care, with the result that many inferior lambs are produced. As inferior lambs are not readily salable, they are generally unprofitable to their owners. Furthermore, as the market is usually congested in these months, they seriously affect the price of the better-quality lambs that have been more carefully raised.

North Atlantic States.—Sheep farming at one time occupied an important place in the North Atlantic States. However, the growth of cities with a consequent increasing demand for dairy products, soon made dairying more profitable. As wool could be more cheaply grown on the free western grazing lands, sheep in the East have been steadily displaced by dairy cows. The increasing cost of producing western wool now makes it seem advisable to increase the number of eastern flocks. While there is doubtless an economic place for many more farm flocks, efforts at stimulating the industry have not been wholly successful. In fact, during the last decade there was a 15 per cent decline in the North Atlantic States. The hesitation on the part of eastern farmers to keep more sheep is pri-

SHEEP ON A NEW ENGLAND FARM.

FIG. 17.—Sheep are valuable in the better utilization of eastern pastures. They relish many plants which cattle will not eat, and which consequently have a tendency to crowd out the more valuable grasses. On steep hillside pastures they utilize and improve the rougher parts which cattle neglect.

marily due to a lack of knowledge as to their care, to losses from disease, and especially the fear of trouble from dogs.

In the bean-growing and fruit districts of western New York, sheep, although occupying a secondary place, are an important farm enterprise. They utilize the pastures and the unsalable rough feeds, particularly bean straw, fully as well as dairy cattle, and require much less attention during the summer months when all of the farmer's time is needed in caring for crops.

A number of men in this section and in Ohio specialize in producing winter or "hot-house" lambs. These lambs are born in the late fall or early winter and are marketed from Christmas to Easter time, usually bringing fancy prices. Such lambs are expensive to produce, as much grain and special care are needed, while consider-

SHEEP ON A CORN-BELT FARM.

FIG. 18.—Small flocks can be used to clean up weeds, fence corners, and waste places. Such flocks do not require constant care during the crop-growing season; consequently, they can usually be run very cheaply. However, they can not be neglected.

able difficulty is experienced often in getting the ewes to breed at the proper season. Moreover, the demand is quite limited, being largely confined to the first-class hotel and dining-car trade, so that the business can easily be overdone. During the past six or eight years this business has been on the wane, as production costs have been prohibitive.

North Central States.—In the rougher sections of the Corn Belt, where much of the land is pasture, flocks of 50 sheep or more are common, and are usually associated with herds of breeding beef cattle. This is especially true in the more broken regions of northern Missouri and southeastern Iowa. There are also numerous flocks in parts of northeastern Indiana and southern Michigan. While there are many fine-wool sheep, as in southwestern Iowa, the mutton breeds, especially the Shropshires, generally prevail.

In preference to keeping permanent flocks a considerable number of Corn-Belt farmers have followed the practice of purchasing each

fall a bunch of western range ewes that have been discarded because of age. Such ewes will do well for a year or two longer on farms where the feed is more succulent and more easily obtained. These ewes are generally bred to mutton rams. After the lambs have been shipped the ewes are generally fattened and sold.

Although Ohio is still one of the leading wool-producing States, its sheep have declined steadily in numbers since 1883. The decline has been about 30 per cent during the last decade. This is due partly to the low value of wool prior to 1917 and the steady substitution of dairy cows. In southeastern Ohio, the "panhandle" of West Virginia, and the adjacent counties of southwestern Pennsylvania, there is a large area of hilly country where only about one-fourth of the land is cultivated. In this section (known as the Ohio fine-wool region) sheep, mostly Delaines, are kept extensively, along with beef cows. In this region there has been a tendency to displace sheep with cattle, but it has not generally been successful, as cattle do not graze the steep, hilly pastures to the best advantage.

There has been a tendency also to substitute mutton and crossbred animals for the fine-wool sheep. However, they are not so well adapted to the conditions. Furthermore, this region produces an excellent quality of fine wool that commands the highest market price. While the flocks have generally decreased in size, the Delaines still persist. The former practice of keeping wethers, however, has largely been discontinued. The present practice is to fatten the wether lambs during the winter and sell them in the spring, although some are held until after the second fleece has been shorn. The ewe lambs are mostly retained or sold for breeding purposes.

South Atlantic and South Central States.—Sheep have never been important in the South Atlantic and South Central States, except in parts of the Virginias, Kentucky, and Tennessee and in the southwestern prairie country where range methods prevail. In the four States just mentioned there are districts where the production of early lambs has reached a high stage of development. In the western part of Virginia, the adjacent part of West Virginia, and to some extent in North Carolina, there are numerous mountain valleys where the limestone and certain other soils produce rich bluegrass pasturage and where most of the land is kept in sod (fig. 19). These pastures are primarily utilized for fattening cattle. On nearly all of these farms sheep are run as a secondary enterprise for the production of lambs, which are marketed in June and July. The ewes are run on the rough hillsides during the summer and fall months, being brought down to the bluegrass pastures for the winter, where they are kept until after the lambs are sold. While they get most of their winter subsistence from the bluegrass pastures, they are sometimes fed a little hay and grain and in some instances grazed on grain pastures.

Much the same method is used in the bluegrass district of Kentucky, except that there are no mountain pastures. In central Tennessee the ewes get most of their winter grazing from wheat fields. They are taken from these areas in April in time for the wheat to mature and produce a good crop of grain.

In these regions approximately half the producers sell all the lambs and maintain the breeding flocks by purchasing mature ewes. These purchased ewes are obtained from the neighboring mountain

districts, from the Piney-Woods region of the South, and from the western ranges, and are bred to rams of the mutton breeds. Because of the succulent nature of the pasture grasses which insures an abundance of milk, the lambs, which are born from January 15 to April 15, make a rapid growth and are ready for the May, June, and July markets. As there is a relatively small supply at this time, they usually command a good price.

In the Appalachian Mountains outside the limestone areas there are many small flocks, which seldom exceed 50 head. The sheep, which are of a nondescript type, are allowed to run wild most of the year, although they are usually given the run of the farm during the winter months, occasionally receiving a little additional feed. Because of depredations and hardships, flock increase is not very great and the owners depend mostly on the wool. While the receipts from the sale of wool are low, nevertheless they are of considerable

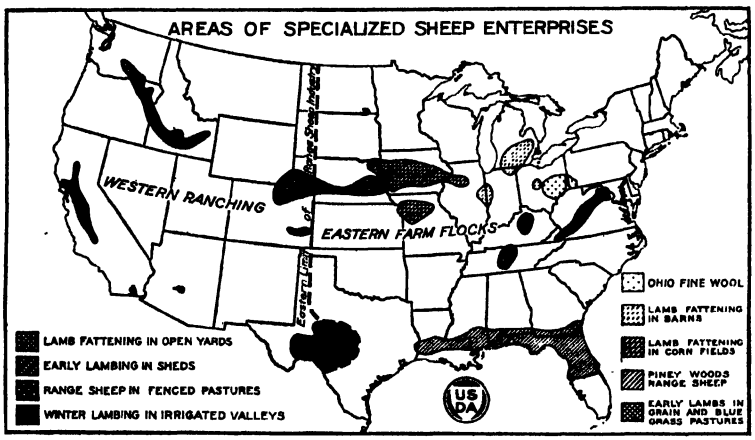


FIG. 19.—The production of lambs for the early markets is highly specialized. In the valleys of California, where there is excellent winter grazing, the production of lambs for the April and May market is rapidly developing. In the Pacific Northwest many lambs are produced for the June and July market. In the blue-grass districts of Kentucky, Tennessee, and the Virginias early lamb production is also an important industry. In Michigan, Indiana, and Ohio lambs are usually fattened in barns. In the Central West lambs are fattened in cornfields. Farther west, where open winters prevail, lambs are fattened in yards. In the upper Ohio Valley, where the country is much broken, Delaine sheep are kept for the production of wool. The practice of allowing sheep to run wild in the Piney Woods section of the South is declining. The keeping of sheep in wolf-proof fenced pastures is rapidly growing in Texas.

importance to owners who have a very limited income. The number of these mountain sheep is declining.

In the Cotton Belt less than 3 per cent of the farmers have sheep and the farm flocks are generally small. Most of the improved acreage is devoted to the production of tilled crops, principally cotton and corn, with some small grain and hay. The few pastures that exist are hardly sufficient for the necessary work stock.

In the Piney-Woods region, which borders the Cotton Belt on the east and south, there are large areas of undeveloped land that are utilized as open range (fig. 19). Although the grass is somewhat sparse and of inferior quality, this land carries considerable stock. In this region sheep, cattle, and hogs, which are mostly in the hands

of large land owners, are allowed to run wild throughout the entire year. Each spring the sheep are rounded up, shorn, branded, and the ram lambs castrated. They are of a nondescript type which shear an average of about 3 pounds of coarse wool. As there is a heavy loss from internal parasites, predatory animals, and insufficient feed during the winter, the death rate in the past has been nearly as large as the birth rate. At present there is a tendency to give them a little more care and to improve their quality. There are some sales of ewes to the early lamb districts but most of the income is from wool, which, although low in value, costs but little to produce.

Western Farm Flocks.—In recent years numerous flocks of from 25 to 50 head and more have been springing up on the irrigated farms of the West. In the small, irrigated valleys which lie in the center of extensive range areas, farming is generally based on the production of winter feed for range stock. On the larger irrigation projects, such as the Yakima Valley, Washington, and projects along the Snake River in Idaho, where a great surplus of feed can be produced, it is necessary to grow other crops, such as fruits and sugar beets. In order that such farms may be kept at their highest efficiency it is generally necessary to keep some farm livestock to help utilize unsalable products and to furnish manure with which to maintain soil fertility. The sale of dairy products is somewhat limited and beef cattle do not fit in well on such small farms. It has, therefore, been found that sheep, which can be used to excellent advantage in keeping the ditch banks free from weeds and to graze waste corners, have an important place, especially as they require but little labor during the busy season. For this reason it is probable that their numbers will rapidly increase in the near future. In the northwestern irrigated valleys, where they occur most frequently on farms of 80 or more acres, the mutton types, especially Hampshires, prevail. Many of the flocks are purebred, the best males being sold to range operators. Most of the lambs, however, are sold as early spring lambs. In the Willamette Valley, long-wooled sheep prevail. These sheep are especially well adapted to the mild but humid climate and are very useful in keeping the pastures, many of which are cut-over lands, free from shrubby growth.

Range Sheep.

The western practice of running sheep in large bands was developed as a means of utilizing the vast areas of free grazing lands in the Plains and Mountain States. Bands of from 2,000 to 5,000 head were common, each band being under the care of a herder who remained with them constantly to guard against wild animals, to prevent loss through straying, and to direct their grazing. There was also a camp tender for every one to three bands who brought in supplies and moved camp. In the larger companies there were foremen who had general supervision over every 5 to 10 bands and who hunted for the good grazing areas. In a small outfit the owner frequently served as camp tender or foreman.

The sheep were primarily kept for their wool and were run on the open range throughout the entire year. They frequently traveled long distances, there being record of bands that were driven from the Pacific coast to Missouri River points, taking a couple of years en

route. The business was wholly nomadic, there being no investment in land or buildings. The only investment was for a camp outfit, costing from $200 to $400, and for the sheep, which were worth about $2 a head. Practically the only expense was for labor, which at that time was comparatively inexpensive, and for necessary camp supplies. The operating expenses were, therefore, very low, it being stated that some flocks were run as cheaply as 50 to 75 cents per head per year.

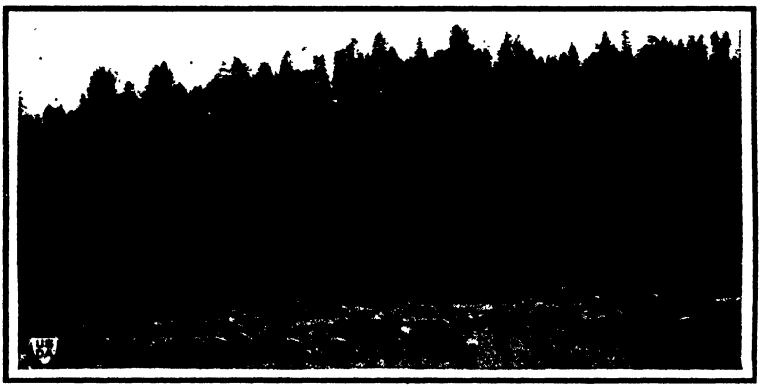
With the gradual taking up of the best grazing lands for farming purposes, the livestock were steadily pushed back to the rougher and more arid areas where competition for range became very severe. The cattlemen, especially the large companies, were the first to feel this competition and many were forced to discontinue. This was partly because the cattle, not being herded, could not easily be shifted

COUNTING SHEEP ON A NATIONAL FOREST.

FIG. 20.—About 8,000,000 sheep are grazed each summer in the national forests of the West. They enter the forests in May and June, and in September and October the breeding stock are driven down toward irrigated valleys or desert ranges for the winter, while the lambs not retained for breeding purposes are shipped to market.

from congested and overgrazed areas, and also because sheep, which graze more closely, could get feed where cattle could not. Later, as large areas of range were patented and consolidated into numerous holdings, cattle, which can be handled in small numbers, in turn began crowding out the sheep, as under range conditions sheep can be economically run only in comparatively large numbers. This is especially true of the Great Plains region, where small herds of cattle kept in connection with dry farming have rapidly displaced sheep. In Montana and Wyoming, which were the last to feel this movement, there was a decline in number of sheep of 59 per cent and 62 per cent respectively during the period 1909–1919. This decline was partly due to the dry season of 1919 and the financial difficulties following, but more largely to the rapid homesteading of land under the law granting 640-acre homesteads.

In order to remain in business most of the range operators have been compelled to purchase or lease sufficient land to control their range. In some instances this has meant the acquiring of a sufficient number of small holdings to control the watering places. In other cases it has meant the purchasing or leasing of the greater part of the range. In many instances it has been necessary to develop more watering places, build warehouses for the storage of feed, and in other ways develop these holdings. It is now necessary to own improved ranch property before one can obtain permission to use the national forests. This investment in land and improvements has greatly increased the necessary capitalization. In some localities this capitalization is as high as $14 per sheep. At present an investment of not less than $13,500 is usually needed in order to



SUMMER GRAZING IN A WESTERN FOREST.

FIG. 21.—The sheep thrive on the soft, lush feed of the high mountains, many remaining most of the summer close to or above timber line. The cattle, on the other hand, graze mostly in or near the parks and open timber areas.

engage in the range sheep business. This would be apportioned somewhat as follows:

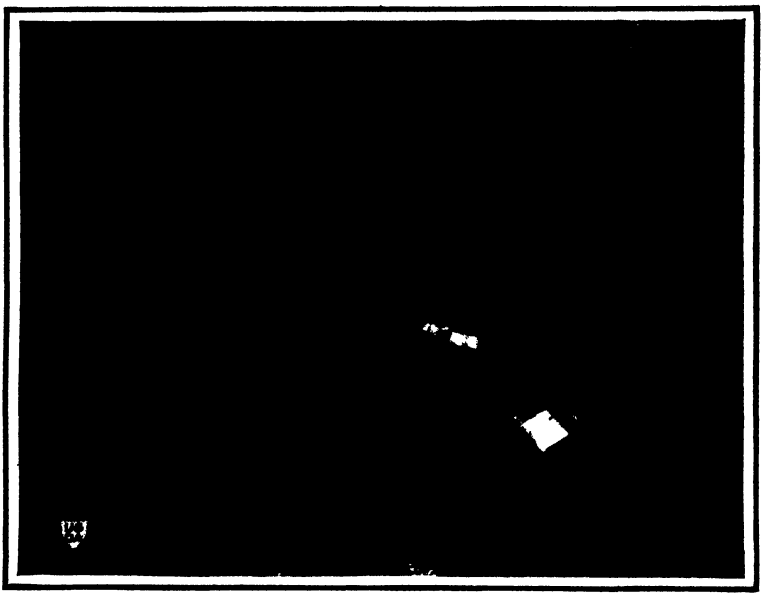
	Low.	High.
800 to 1,000 breeding ewes at $8 to $10 each (one band)	$6,400	$10,000
20 to 25 rams	600	1,000
Camp outfit	600	1,000
Home ranch to serve as operating base	5,000	5,000
Cash with which to meet current expenses	1,000	1,000
	13,600	18,000

While there are numerous bands with a much lower investment, these are generally operated by persons of foreign birth or descent who are willing to live very cheaply, and who usually act as herders or camp tenders. In order that a man may make a managerial wage he should have at least two bands.

This constant crowding has necessitated the retirement of many range operators and a considerable curtailment of most of the range flocks, until at the present time (1923) there are only about 21,000,000 sheep in the 11 far Western States. The sheep, with the exception of those on southern ranges, have been forced, in large measure, into those regions that include desert lands, which can be used only in win-

ter when snow and water are available, and also afford summer grazing in the mountains. The greater part of the summer grazing areas are now included in the national forests, where grazing is regulated by the United States Department of Agriculture.

Operating expenses have also greatly increased. The crowded conditions make it necessary, except on the southern ranges, to provide considerable winter feed, the amount varying with the locality and with the season. The labor costs per sheep are also much greater. This is partly because it has become necessary to reduce greatly the size of the bands, which now vary from as low as 600 head up to 2,000 head, seldom exceeding 2,500. It is also necessary to use more men, as most operators now have a camp tender with each band, who



OPEN-RANGE LAMBING SUPPLEMENTED BY TENTS.

FIG. 22.—Large tents, warmed by stoves and lighted with lanterns, receive ewes whose lambs are likely to arrive during the long cold nights. A man is always at hand to look out for the ewes.

spends most of his time in helping to herd. There has also been a considerable increase in the wages paid.

These increased operating expenses have made the production of wool alone generally unprofitable. Fortunately, the increasing demand for mutton, especially lamb, has made it possible for the range operators to change from a strictly wool-producing basis to that of producing both wool and lamb. At the outbreak of the World War the majority of range operators were giving more attention to the production of lambs than of wool. The first step in meeting the higher operating expenses was the elimination of the numerous bands of wethers, which were kept primarily for their wool. The development of a type of ewe that would produce a good market lamb and a readily salable grade of wool, and at the same time maintain the herding instinct of the Merinos, was accomplished by breeding Ram-

bouillet ewes to coarse-wool rams. In many cases this crossing with coarse-wool animals was carried to such a point that at the outbreak of the war many of the ewes were losing their herding instincts and had very inferior fleeces. With the high prices for wool that prevailed from 1914 to 1920, there has been a tendency to breed back to the fine-wool type. As it is difficult to keep the desirable characteristics of the first cross, various efforts have been made to secure a fixed type of crossbred sheep.

In order to keep the breeding stock at standard strength it is generally necessary to replace about one-fourth of the flock each year. The early lamb raisers usually make this replacement by direct purchase, but most flockmasters save a sufficient number, about half of the ewe lambs, for this purpose. Under ordinary range conditions crossbred ewes must usually be discarded by their sixth year, while Merinos last from one to two years longer. These discarded ewes usually sell for about half of their original value when entering the band. In spite of the discarding of aged ewes there is a considerable annual loss by death and occasional heavy losses due to droughts or severe winter storms.

The breeding expense, when figured separately, usually runs a little over 50 cents per ewe. This is made up of two items. First, the expense of keeping the rams, which is much heavier than for ewes inasmuch as the rams must be run in small bands of from 350 to 500 head, and must be given more care. The second item is for the purchase of rams, there being about 20 to 25 rams to every 1,000 ewes. The majority of the sheepmen purchase yearlings, as ram lambs are usually not hardy enough. These yearlings cost approximately from $30 to $40 a head, depending on their quality. The approximate period of usefulness of such an animal is about five years, at the end of which time he has practically no sale value. However, as there is about a 20 per cent annual loss, few last so long.

The New Mexico-Arizona Region.—The fewest operating changes have taken place in the southern range States, where, because of the very low rainfall, there has not been much interference from dry farming. In southern New Mexico, where the climatic conditions at breeding and lambing time are frequently unfavorable, the lamb crop averages approximately 60 per cent. For this reason fine-wool sheep predominate. In order to operate successfully in this region it is usually necessary to control land on which water can be developed.

In northern New Mexico and southern Colorado many of the sheep are owned by persons of Mexican descent, some of whom operate on a very small scale. The flocks, which are mostly Merinos, usually range from 500 to 1,000 head. Although the feed is somewhat sparse, the climatic conditions are more favorable for the production of lambs. The majority of these lambs are shipped to the eastern Colorado and Corn-Belt feed yards. The sheep are kept on the open range throughout the year and travel comparatively short distances to and from the summer and winter ranges.

The Arizona sheep are run mostly on the high plateau area in the northern half of the State during the summer season. About 70 per cent of them are within the national forests, the rest running on patented (mostly railroad) lands and Indian reservations. As water

is scarce, it is necessary to build large storage reservoirs costing from *$1,000 to $15,000 each, where the run-off from the occasional rains* can be stored. During the winter season most of the sheep are grazed in adjacent valleys and protected areas, while about one-third are driven or shipped to the foothills and desert areas in the southwestern and western parts of the State. In years when there are favorable rains, the sheep get about six weeks of excellent grazing on the deserts. If the rains fail, much trouble is experienced in getting sufficient feed and water for the flocks.

As most of the feed throughout Arizona is too sparse to make it possible to produce fat lambs, and as much of the range is so brushy that the sheep must be closely herded, the Rambouillet predominates. The operators who depend on using the deserts for a part of their winter grazing generally aim to have the lambs born in February, so as to be ready to rush onto these areas as soon as the rains come. Some of them breed their ewes to Hampshire rams, shipping all of these lambs to the early market. In the northern districts the lambing season usually comes in May and the lambs are sold in the late fall most of them as feeders. In years when prices are unsatisfactory, or when the lambs make a poor growth, they are sometimes held another year.

All of this southern range is subject to occasional droughts, some of which are of long duration. At such times it is necessary to buy large quantities of feed in order to carry the sheep through, and to ship large numbers of them out of the country. In spite of these efforts there are sometimes heavy losses through starvation.

Central Range Region.—In most of Wyoming, Utah, Nevada, and in parts of northwestern Colorado and southern Idaho and Oregon sheep are run in the mountains to a considerable extent, generally within the national forests, from about the middle of June to the middle of October. They are then grazed toward the winter ranges, usually remaining in the foothills until about December 1. As soon as there is sufficient water and snow available, they are driven on to the desert areas where they remain as long as the water lasts. Whenever possible, the operators generally provide sufficient feed to carry the sheep through periods of stormy weather. Those grazed near irrigated districts are frequently fed considerable hay. In April they begin moving toward the summer ranges, from 50 to 150 miles away. The lambing season usually comes in April and May and shearing in late May and June while the sheep are on the intermediate range.

As on the southern ranges lambing is usually conducted on the open range, efforts being made to select camps that are reasonably protected from storms and where there is plenty of feed and water. In some instances tent shelter is provided. The lambs are usually weaned about the time the sheep leave the national forests. The lambs not retained for breeding purposes are then shipped, most of them going to the primary markets. As the feed is more luxuriant than farther south, many of the lambs are fat enough to go direct to the slaughterers. A very large proportion, however, are finished in feed yards.

California Region.—In California the methods of handling sheep are quite diverse. In the northern half of the State the same general methods that prevail in the central range district are found. The

majority of sheep are run on the national forests or privately owned or leased land during the summer. The rest of the year they are largely kept on privately owned range, in stubble fields, or wherever suitable grazing can be found.

In the southern part of the State the sheep are handled in much the same manner as in Arizona. During the summer months all that can be accommodated are grazed on the national forests. The rest are run wherever suitable range can be found. In the winter and early spring they are run on the desert areas, if there is sufficient rainfall for the feed to grow. They are also grazed in stubble fields, in vineyards, or wherever forage can be found.

Formerly a large percentage of the lambs were born in the spring and marketed in the fall, but in recent years the practice of lambing in midwinter has grown rapidly. The production of these winter lambs started about 15 years ago in the Imperial Valley of California and in the Salt River Valley of Arizona. Farmers in these

SHEEP ON SPRING RANGE NEAR OWENS VALLEY, CALIF.

FIG. 23.—Sheep, through their ability to go without water several days, and even weeks, when on succulent feed, are oftentimes able to get much feed from desert areas that have no other use.

valleys would purchase aged range ewes, breed them to mutton rams, and graze them on alfalfa pastures. The lambs which were born in December were ready for the April and May markets. Since the World War many of the alfalfa pastures have been plowed up for the production of cotton. However, the demand for such lambs has been so keen that many sheep growers in the San Joaquin and Sacramento Valleys have begun producing winter lambs. The lambs are marketed during April and May, the majority of them being shipped between April 15 and May 15. It is estimated that in 1923 approximately 300,000 lambs were marketed during this period. Most of them were shipped to Chicago and Kansas City, although the coast cities consumed a considerable number. The California lambing season now extends from November and December in the Imperial Valley into May in the northern counties of the State.

Northern Range Region.—The greatest changes in management have taken place in the northern range States. The majority of the sheep now remaining in Montana and northeastern Wyoming graze during the summer on the national forests and are run on privately

owned land or on Indian reservations during the remainder of the year. In many cases it is necessary to feed them for a period of from three to five months.

A few of the sheep in Washington and northeastern Oregon are able to get some winter grazing from the semidesert areas. However, the greater number are grazed on privately owned land (much of which is in the wheat-growing sections), that is too rough for cultivation, except for a period of three or four months in summer when they are in the mountains. Most of the sheep in central Washington are fed alfalfa hay for a period of from three to five months in winter. In order to meet the consequent high operating costs, many of the sheepmen have turned their attention in recent years to the production of early spring lambs.

This spring-lamb industry has reached its highest development in Idaho, where the sheepmen have succeeded in developing a type

NOONTIME IN MONTANA.

FIG. 24.—Range sheep usually begin grazing at early dawn. It is customary for them to rest from about the middle of the forenoon, when it begins to get warm, until late afternoon. Then they continue grazing until dark, when they settle down for the night.

of lamb that seems well adapted to market requirements. Very nearly half of the Idaho sheep raisers are now engaged in early lamb production. The irrigated valleys produce large quantities of alfalfa hay for which a market must be found. As there is not sufficient desert land, except in the southern part of the State, on which to winter their sheep, and as the spring and fall range is also limited, the Idaho flockmasters have come more and more to depend on winter feeding.

The ewes, which are a cross between the long-wool breeds and the Rambouillet, are brought onto the irrigated farms in the late fall and fed alfalfa for a period of three to five months during the winter. A large percentage of them are bred to Hampshire rams sufficiently early to lamb in February, the lambing operations being conducted in specially constructed sheds (fig. 25). The lambing equipment on

the better organized farms usually represents an investment of about $1.50 per ewe. The raisers of early lambs in Washington and Oregon, having a more broken range, are compelled to use Rambouillet ewes, which are generally bred to Hampshire rams.

Not only does this Washington-Oregon-Idaho early lamb district produce a high-quality lamb, but, because of the better care which the ewes receive, a much larger lamb crop is generally obtained than under ordinary methods of range management. This lamb crop frequently exceeds 85 per cent and many flockmasters report occasional crops slightly in excess of 100 per cent. The lambs are generally shipped in June, July, and August, at which time they command top prices. As most of the flocks, because of the lack of sufficient fall range, must be reduced to a minimum as soon as they come out of the forests, and as the ewe lambs, because of their mixed breeding, would not be suitable for range purposes, the entire crop

LAMBING SHED AND CORRALS, UNITED STATES SHEEP EXPERIMENT STATION, DUBOIS, IDAHO.

FIG. 25.—This shed is on open range at an elevation of 5,000 feet and illustrates the general type used for early lambing in the Northwest. The central portion has a capacity for 1,600 lambing ewes. By means of sheds early lambing is possible and large numbers of lambs are saved from losses that occur on the open range. The shepherd's cottage is at the left in the foreground.

is sold. The breeding flocks are largely maintained by purchasing ewes from districts which have difficulty in producing fat lambs.

Southwestern Texas.—Texas leads the States in the total number of sheep. There is no public domain since Texas, when it entered the Union, retained title to all public lands, and practically all the grazing lands have been sold to livestock producers. Many of the ranchers have put up wolf-proof fences, constructed concrete water tanks, and made other improvements. A large part of the sheep industry is, therefore, conducted in a manner somewhat intermediate between the western range and the eastern farm systems.

The principal sheep-raising area is the Edwards Plateau, adjacent districts, and westward. Cattle and goats are frequently grazed

on the same land with the sheep. In the northern part of the area cattle predominate and only enough sheep are kept to graze the weeds and other feed that cattle will not touch. As the sheep do not displace any cattle, and, in fact, when properly run have a tendency to improve the cattle range, their inclusion increases the gross carrying capacity of these pastures. To the south, as the grass is replaced by shrubs, sheep become more numerous and only enough cattle are run to utilize the grasses that the sheep do not care for. On the more brushy ranges goats in turn predominate, while sheep are a secondary enterprise, there being only a few cattle.

The majority of the sheep in this district are in small units averaging from 600 to 1,000 head. Many of them are herded in much the same manner as in New Mexico. However, in recent years, the practice of turning the sheep loose in pastures which have been fenced against predatory animals has been rapidly increasing. While such fences are very costly ($250 to $300 per mile, pre-war prices), it has been found that a pasture will carry nearly double the number of sheep when they are allowed to run loose than when they are herded, as there is much less destruction of feed through trampling. It has also been found that one man can handle nearly twice as many sheep. Furthermore, large lamb crops and better lambs are generally obtained than where the sheep are herded.

Sheep ranching in this district is on a wool-growing basis, as difficulty is experienced in getting good lamb crops. The lambs are generally born in April and May. Most of them are retained, the ewes for breeding purposes and the wethers until one or more crops of wool have been obtained. In favorable seasons the wethers are generally fattened on winter pasture before selling. Partly because of the brushy character of the range and partly because of the comparatively warm winters, about one-third of the sheep are sheared twice annually, in April and in September or October. They shear an average of about 8 pounds per head per year.

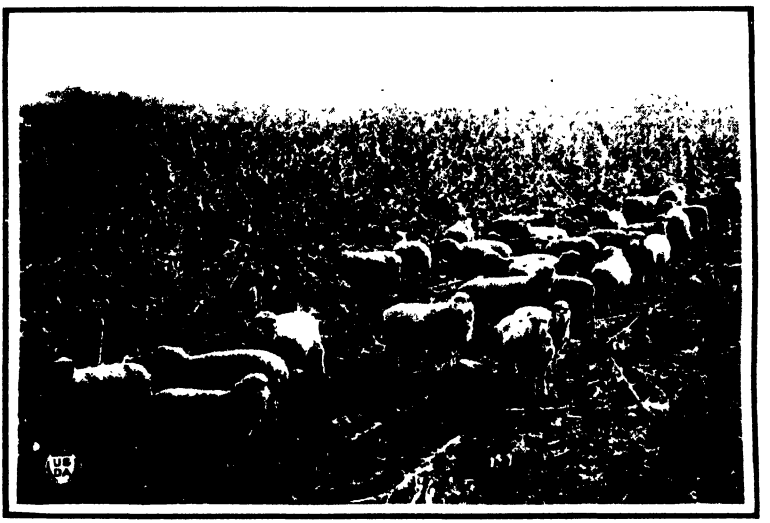
Fattening Sheep for Market.

Fattening sheep for market is extensively followed in several sections of the Corn Belt and adjacent areas, and in many irrigated districts. There are three general systems of finishing: (1) Fattening in cornfields in the Corn-Belt States; (2) open-yard feeding west of the Missouri River; (3) fattening in barns in the East Central States.

Fattening in Cornfields.—The practice of fattening lambs by turning them into the cornfields and allowing them to harvest the crop is followed in districts throughout the entire Corn Belt. It is, however, most common in Iowa and northeastern Nebraska, where it is the prevailing type of sheep finishing. Most of the lambs are purchased at the central markets, Omaha and Chicago principally, in September and October, although some are taken in August. The lambs are usually given the run of the pastures and hay fields and allowed to clean up weeds and waste corners for a period of a week or two. They are then turned into the cornfields in which rape has usually been planted, and are allowed to harvest the crop (fig. 26). Most of them are sold in the latter part of November and in December. The lambs that are not fat enough are held over and fed ear corn on pasture or in dry lots and shipped in January. This practice

has the advantage of requiring but little labor and practically no equipment. The death rate is usually greater than in open yard or barn feeding.

Open Yard Feeding.—The practice of feeding in open yards prevails west of the Missouri River where there is comparatively little stormy weather during the early part of the winter. The most extensive feeding district is in Weld and Larimer counties and vicinity, in northeastern Colorado, where from 500,000 to 1,000,000 head are fed annually. Other extensive feeding districts are the Arkansas Valley in southeastern Colorado, the Scotts Bluff district in western Nebraska, and along the Platte River in Buffalo, Hall, and Merrick counties, in Nebraska. There are other small areas in Nebraska and Kansas, and also in the irrigated valleys of the far West (fig. 27).



SHEEPING DOWN CORN.

FIG. 26.—This practice saves labor in harvesting corn, as well as in feeding sheep. It can be followed only in regions where there is but little rain during the fall months. Lambs fattened in this way fill in the market gap between the fat-range lambs and those from the feed yards.

The fattening of lambs occupies an important place in the beet-growing districts as it helps to provide a market for the large quantities of alfalfa which must be grown in the rotation system and also for the utilization of the beet tops. The manure is highly prized in helping to maintain sugar-beet yields. As corn is grown only to limited extent in these districts it is shipped in from Nebraska and Kansas. Barley, oats, and even wheat are fed also in the early stages of the fattening process. In Nebraska the lambs not only help to provide a market for alfalfa, but also help in utilizing some of the surplus corn.

A large percentage of the lambs are fed in bunches that vary from 250 to 5,000 head. There are, of course, men who operate on much more extensive scale. These are usually large landholders who distribute their sheep about on different farms, seldom having over 5,000 to 10,000 sheep in a single yard. Most of the lambs are put in the yards in October and November. The northern range lambs usually

weigh about 60 pounds and the southern lambs from 50 to 55 pounds when delivered. They are fed for a period of four to five months, during which time they make a gain of from 25 to 30 pounds. It is generally figured that during the feeding process a lamb will consume about 250 pounds of hay and 150 pounds of corn or its equivalent. As the lambs do not finish evenly, it is a practice, especially in the larger yards, to sort out the fat lambs from time to time so that they are generally marketed in several shipments. These shipments usually begin in February, the bulk of the lambs going in March and April and sometimes there are shipments in May. Some of the operators also handle a limited number of aged ewes and wethers.

LAMB FATTENING ON CORN AND ALFALFA HAY, CENTRAL NEBRASKA.

FIG. 27.—Lamb feeding not only furnishes a home market for some of the hay and corn, but also provides gainful occupation for farm help during the winter, when the help otherwise would be idle.

Feeding in barns.—In the East Central States, where there is much stormy weather in the late fall and winter months, lamb feeding is usually carried on in barns. While barn feeding is practiced in parts of Illinois, it is most extensively followed in northeastern Indiana and southern Michigan, in parts of Ohio, and, to a limited extent, in western New York. Although charges for labor and equipment are much higher than where the lambs are fattening in cornfields or in open yards, barn feeding furnishes gainful occupation for the farmer during the winter months when ordinarily there is not much farm work. There is also much less risk as the sheep are given more attention. The majority of these farmers handle only 150 to 300 head, and plan to get lambs that will finish evenly. The majority of lambs are purchased at Chicago. They are fed from four to five months and then shipped to Buffalo, Pittsburgh, or other eastern markets. As the cost of grain is higher than farther west, these eastern farmers find it difficult to compete with the Corn Belt and Colorado feeders. They feel, however, that they can afford to feed on a very close margin for the sake of the manure, which is much needed in maintaining soil fertility.

Losses Among Sheep.

The annual losses among sheep are from various causes (fig. 28). In the farming States most of the losses are from parasitic diseases, although there are some losses from lack of care and shelter. Dogs also inflict much damage. In the Piney-Woods region of the South there are considerable losses from predatory animals and from lack of feed in winter. In the range States the annual losses are principally due to straying from the band, poisonous plants, predatory animals, and parasites. Such losses vary from year to year and according to the character of the range. They average from 7 to 8 per cent on the northern ranges and a little higher on the southern. In addition there are also periodic losses, due to drought or unusually severe winters. In the early days loss from sudden, severe storms was of frequent occurrence and sometimes very devastating. In

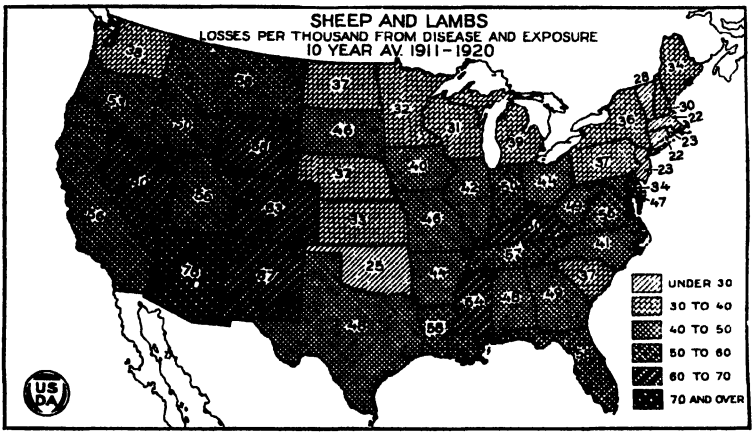


FIG. 28.—On the western range predatory animals, poisonous plants, and exposure on hazardous grazing grounds cause considerable loss. In the farming States internal parasites constitute an important cause of loss, particularly among lambs. Lamb losses are generally larger than those for mature sheep, especially in the humid regions. Much of this loss occurs at lambing time during cold rainy weather.

recent years it has been possible to avoid much of this loss by providing winter feed and by more careful methods. Even with the best of care such losses can never be wholly eliminated. The losses due to straying depend largely on the herder and on the character of the country. These losses are unavoidable in a rough country, and are frequently large when inexperienced or careless herders are employed. On the other hand, they are generally small when the sheep are in the hands of careful herders and in an open country.

Poisonous Plants.

There are a great many plants that cause sickness and death among sheep. These occur in all parts of the United States. Because of the greater number of sheep and because of the method of handling them on the range, the losses of economic importance are largely confined to the western range country. Sheep, like other animals, if left to themselves or if grazed in loose formation, seldom eat enough

of any poisonous plant to suffer from its effects; but, under the system of close herding that prevails in many regions, where they eat practically all the vegetation as they move along, they are much more liable to poisoning and sometimes heavy losses occur. Many sheep are lost on driveways. The first bands passing over a driveway usually consume all the good forage. Succeeding bands, especially if they are hungry, will take such poisonous plants as may be there. Sheep having passed over trails where there is little forage and emerging on patches of poisonous plants frequently gorge themselves on these plants with fatal results.

There are three groups of plants on the western ranges which are especially destructive to sheep. Of these the locoes, of which the white loco is especially poisonous to sheep, were formerly the most harmful. These are found in the Great Plains area extending from Canada into Mexico. In the southern range area they also extend westward into California and north into Utah. With the homestead settlement of the plains country the sheep have been driven out of much of the region where these plants grow.

Second in importance, and in late years perhaps first, are the species of death camas. These are found in the higher parts of the Great Plains area and west to the Pacific. Some of them grow in damp meadows, others on rather dry hillsides. These plants cause most of the losses from poisoning that occur in the spring and early summer. The lupines, of which there are many kinds, doubtless rank third. These are even more widely distributed than the death camas. They are not all equally poisonous, but it is not known which are harmless. Lupine leaves rarely, if ever, injure sheep, but heavy losses have been produced by eating the pods and seeds. The losses occur in the summer and fall months.

There are other groups of poisonous plants which are common to the East and West. Among these are the laurels, of which there are several kinds, which cause a considerable loss among sheep grazing in the eastern United States. Some western laurels are especially destructive to sheep. The leaves of wild cherries also take a considerable toll, especially among sheep that are driven over a trail where very little other feed is obtainable. Although the aggregate losses from wild cherries are not great, in some places they may be very heavy.

The milkweeds, the rayless goldenrod of New Mexico and Texas, the Colorado rubber plant of Colorado and New Mexico, and the coffee bean of Texas, are some of the other plants which also cause losses. The western sneezeweed is a serious menace in Utah and portions of the Southwest.[1]

There is no way of determining the magnitude of the losses among sheep from poisonous plants, as such losses are seldom reported. There are numerous records of individual herds where the losses have been 50 per cent or greater. It has been stated that the losses in Colorado amount to $1,000,000 annually. At the present time there is no practicable method of eradicating most of these plants. However, a careful and experienced herder, who is familiar with the plants and the places where they occur, can do much to prevent such losses.

[1] The distribution of some of the poisonous plants of the West is shown in Figures 75 and 76 of the article "Our Forage Resources," page 401.

Predatory Animals.

The western livestock owners suffer heavy losses from depredations of predatory animals, these losses being formerly estimated to amount to from $20,000,000 to $30,000,000 annually. Wolves, coyotes, and bobcats are the greatest offenders, and in many localities inflict such heavy and continuous losses as to make sheep raising an unprofitable enterprise (fig. 29). In the earlier days the individual stockman endeavored to combat these predatory animals on his own range by employing hunters to shoot, trap, and poison them. The payment of bounties for animals taken was also resorted to. These individual efforts were not satisfactory and demonstrated the necessity for organized effort in order to secure adequate results. The coordination of the efforts of all those directly interested in the problem was then undertaken. As the Department of Agriculture had charge of the control and eradication of predatory animals in the national forests and on the public domain, and as it had already

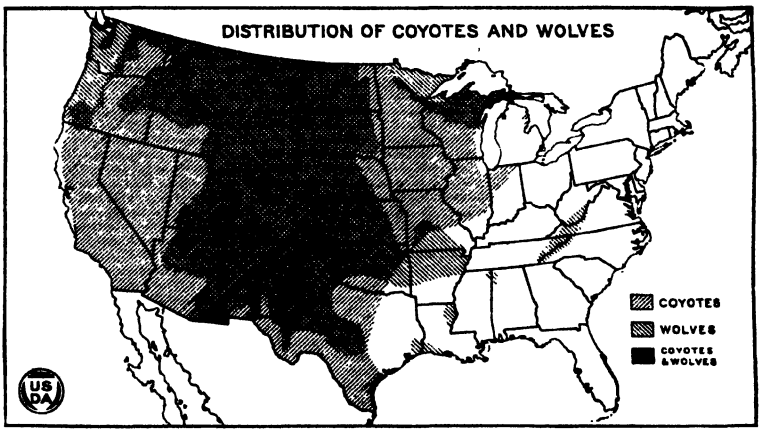


FIG. 29.—Predatory animals at one time exacted a heavy toll from the western livestock industries. In recent years, through concerted efforts of various local and State organizations and the United States Department of Agriculture, losses from this source have greatly decreased.

developed methods of eradication which had proved eminently successful, the work is now largely conducted under its general supervision.

At present the department is cooperating with many States, county officials, and livestock associations in well-organized campaigns for the destruction of these pests. Congress has appropriated $274,000 for fighting these animals during the fiscal year 1924, while 13 States, mostly western, have appropriated $285,000 for cooperation during this period. Additional funds have also been provided by stockmen's associations. A well-organized force of hunters, who are supervised by capable and experienced men, and who have been thoroughly trained in the most up-to-date and efficient methods of trapping, poisoning, and den hunting, are employed. Substantial headway has already been made and stockmen report greatly improved conditions, with losses entirely eliminated in some instances and markedly reduced in others. Approximately 500,000 predatory animals have been destroyed since 1915.

In the greater part of the farming region losses from wild animals are comparatively small. Throughout all of this region, however, farmers suffer severe losses from predatory dogs. While dogs do considerable damage to all classes of livestock, their depredations on sheep are especially severe. No accurate figures are available as to the damage caused by them. However, as a result of an investigation conducted in 1913 it was estimated that a total of 108,000 sheep which had been killed by dogs the previous year were paid for out of State and county funds. This figure does not take into consideration the damage to the rest of the flock which, from a monetary standpoint, is usually much greater than the actual killings. Sheep which have been frightened seldom do well, and if this occurs in the late fall there is usually a heavy loss of lambs the following year as well as a much reduced wool clip. The fear of damage from dogs keeps many men out of the business who otherwise would be glad to engage in it. Most of the States now have laws for the control of dogs. In a number of States the county pays for the animals actually killed, while in others the owner of the dog is held liable for all damage done by it. Nearly all States make it illegal to keep a sheep-killing dog, while a few States have laws making it a misdemeanor to allow dogs to run at large. Some States, notably Michigan, have laws that are proving to be a real protection to sheep.

Parasitic Diseases.

Sheep probably suffer more from animal parasites than do any other kind of livestock, although ordinarily they are but little subject to diseases caused by bacteria and viruses. Most of these losses occur among lambs, as these young animals are usually more heavily parasitized and appear to be more seriously injured by a given infestation than are the older animals. Parasites of sheep are of two general types, external and internal.

External parasites.—The external parasites are those which live on the skin or in the skin or hair follicles, such as lice, ticks, and scab mites, or which attack the exterior of the animal from time to time, such as blood-sucking flies. The most important of these external parasites are the scab mites and sheep ticks.

Scabies is one of the oldest known, most contagious, and most injurious diseases affecting sheep (fig. 30). Its history dates back to the earliest age of civilization. It is easily transmitted from one sheep to another and spreads very rapidly after being introduced into the flock. When allowed to spread, sheep scab causes financial loss to the industry, (1) by a decrease in the quantity of wool produced, (2) by the unthrifty condition of the animals, and (3) by the death of large numbers of infested sheep. It was formerly the greatest drawback to the sheep industry of the United States. The migratory character of the western sheep business was very favorable to the spread of this parasite. The sheep were frequently exposed to the disease by infected ranges and trails, by "picked-up strays" from other infested flocks, and in many other ways.

Although scab is highly contagious, insidious in its nature, and severe in its effects, it yields rapidly to proper treatment and is easily cured. It is, therefore, highly desirable to eradicate the disease so far as possible. For this reason the Department of Agriculture has extended aid to the industry by controlling the inter-

state movement of sheep to prevent the carrying of infection from one State to another. Cooperative work has also been carried on with the livestock authorities of the various States concerned, with the intention of completely eradicating the disease. This work has been in progress for 17 years. During this time the disease has been very greatly reduced over most of the previously infected area. However, taking the country as a whole, considerable expense is involved in keeping it under control.

The sheep tick, which is really a wingless parasitic fly, is widely distributed in many of the sheep-growing countries of the world. In this country it is found in practically every State. It is most prevalent, however, on the western ranges where sheep are herded in large flocks, the northern two-thirds of the range country being the most heavily infested. The previous custom, in a majority of the principal sheep-growing States, of dipping the flocks regularly for scab evidently served at the same time to control the tick. With the eradication of scab in many States, dipping, especially in the Northwest has been discontinued to a great extent. Subsequently,

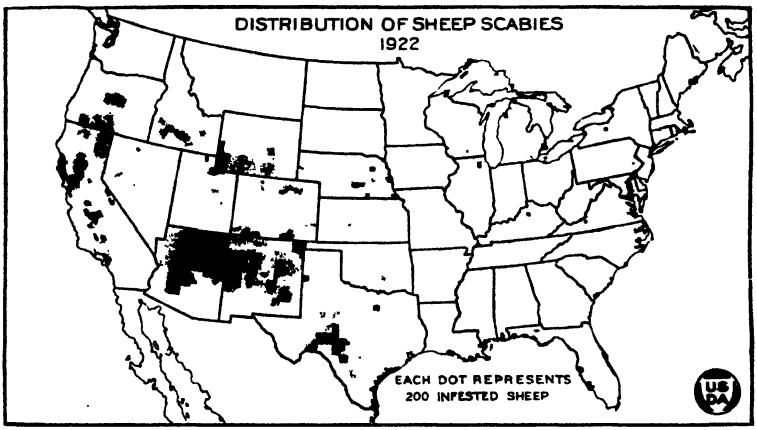


FIG. 30.—Sheep scab is most common on the range, but occurs in the Central States as far south as southern Missouri and Kentucky. The Atlantic Coast States, with the exception of New York, and most of the Southern States are free from the disease. Although scab spreads rapidly and requires energetic measures for its control, its elimination from Montana, one of the largest sheep-producing States, shows what can be accomplished by persistent and energetic measures.

the ticks have spread rapidly and become so prevalent that compulsory dipping again has become necessary in order to eradicate them. In the Southwestern States, where sheep owners still continue to dip their flocks more or less regularly, ticks are not so plentiful. Many of the farm flocks also harbor these parasites.

Other external parasites which cause considerable losses are the screw worm and the various wool maggots. These are especially bad in the warm, humid climate of the South. To avoid serious losses, shearing cuts and other wounds must be properly protected from them. These maggots are also likely to infest sheep suffering from diarrhea.

Internal parasites.—Internal parasites live in the tissues, cavities, and tubes of the host animal. In the case of the sheep these parasites

include roundworms, lungworms, flukes, tapeworms, the maggot known as grub in the head, and some microscopic forms.

Of the various roundworms, the stomach worm is probably the most common and important. This parasite, which is found in the fourth stomach, occurs over almost the entire world where there are sheep, goats, cattle, or other suitable host animals. In the United States it is most plentiful in the South, where it is favored by abundant warmth and moisture. It is also a serious pest in the Northeastern and Middle Western States and in low, wet areas throughout the entire country. It is present in smaller numbers and does less damage in the high, dry, and cool areas of the Rocky Mountain region.

It is impossible to estimate with accuracy the losses caused by the stomach worm. However, it is probable that this parasite causes more loss to the sheep industry than any other disease, and that the total loss from it is very large. The stomach worm is probably one of the leading factors in preventing the expansion of the sheep industry in the South; and, together with dogs, it has undoubtedly been responsible for much of the decline of the sheep industry in the Northeastern and Central States. Losses from this cause are greatest among lambs, especially after they are weaned from their mothers and turned on infested pastures. Not only is there a considerable loss by death, but because of this worm infestation a large percentage of the farm lambs have to be marketed in an unthrifty condition. Such lambs always bring a low price in the markets.

The sheep become infected while grazing on pasture. The eggs of this parasite pass out of the body of the sheep in the droppings and are scattered broadcast over the pasture. The young worms which hatch from the eggs feed upon the organic matter in manure and grow until they are nearly one-thirtieth of an inch in length. Further development then ceases until the worm is swallowed by a sheep or other ruminant after which the worm again begins to grow and reaches maturity. The chances of the young worms being swallowed are greatly increased by the fact that they crawl up blades of grass whenever sufficient moisture is present and the temperature is favorable. While the infestation can be avoided to a certain extent by a careful rotation of pastures this method is not entirely effective. These worms can be controlled by the administration every three or four weeks of a 1 per cent solution of copper sulphate in suitable doses.[2]

The liver fluke is common in certain portions of the United States, especially along the South Atlantic and Pacific coasts and the Gulf of Mexico. It was a serious disease of sheep in California as early as 1833. It is especially prevalent in Oregon. As the flukes require snails for their intermediate hosts, prevention is largely a matter of avoiding wet pastures. Not only is there a considerable loss of sheep resulting from this disease, but there is an additional loss sustained by the packing houses from the large number of diseased (fluky) livers that are condemned at the time of slaughter.

Nodular worms live in nodules in the intestines of sheep. Not only do these cause an unhealthy condition in the sheep, and sometimes death, but where these nodules are numerous, they destroy the value of the intestines as sausage casings. Nodular disease at the present

[2] For further information see Farmers' Bulletin No. 1330.

time is so prevalent in this country that it is necessary to import casings at considerable cost from other countries where the parasites producing this condition are less prevalent. Nodular disease is spreading in the United States and unless suitable control measures are found and applied it is only a question of time when the production of casings from sheep intestines will be reduced to a negligible item.

Gid, which is a disease due to a bladderworm or larval tapeworm occurring in the brain or spinal cord, has caused heavy losses in Montana, where it is most prevalent. Grub in the head is due to a maggot in the nostrils and frontal sinuses. The irritation due to this causes the profuse flow of mucus from the nostrils. Keeping the sheep's nose smeared with pine tar or some similar preparation during the fly season is a valuable preventive. Among the numerous other internal parasites are the blood-sucking hookworm, and worms which occur in the lungs of sheep, causing a bronchitis characterized by a husky cough.

Much can be done in the prevention of parasites in sheep by not keeping them too long on the same pasture. Fairly frequent changes of pasture are desirable, not only for the sheep but also for the pasture. Clean barns and yards, clean feed, and a good, safe supply of drinking water are always important. Dogs are responsible for conveying a number of parasites (tapeworm and tongueworm) to sheep, as well as other farm animals. Stray or unrestrained dogs running over the farm are a source of livestock infestation.

Cost of Producing Mutton and Wool.

The most extensive studies on the cost of producing mutton and wool are those made by the Tariff Board (appointed by President Taft) for the year 1910, and by the United States Tariff Commission for the years 1918–1920. These two studies covered the western range industry and included costs on a total of 3,000,000 and 1,419,000 sheep, respectively. The Tariff Board also made a comprehensive study of the cost of producing wool in the farming States, especially in those sections producing fine wool. The figures published are based on the cost of producing a pound of wool, and no segregation of the individual items of expense has been made. The best figures available concerning recent costs of keeping farm flocks are, (1) an investigation by the United States Tariff Commission in 1918 on the cost of keeping Merino sheep on 18 farms in the Ohio fine-wool section, and (2) a 4-year cooperative study conducted by Purdue University and the United States Department of Agriculture on 42 Indiana farm flocks. The Indiana figures are believed to be representative of Corn-Belt conditions.

Considerable information has been obtained by the Department of Agriculture relative to the cost of fattening range sheep for market. The figures obtained are for a number of the leading feeding centers and cover nearly 400,000 sheep, principally lambs.

Cost of Carrying Range Sheep.

The average cost of running a range sheep for a year under pre-war conditions (1910) was $2.11. For the 3-year period, 1918–1920, which was the peak period of high costs, these figures had risen to $8.30. The operating costs in 1923 were less than for the period of

VARIATION IN COST FACTORS OF KEEPING SHEEP—10 RANGE STATES, 1919.

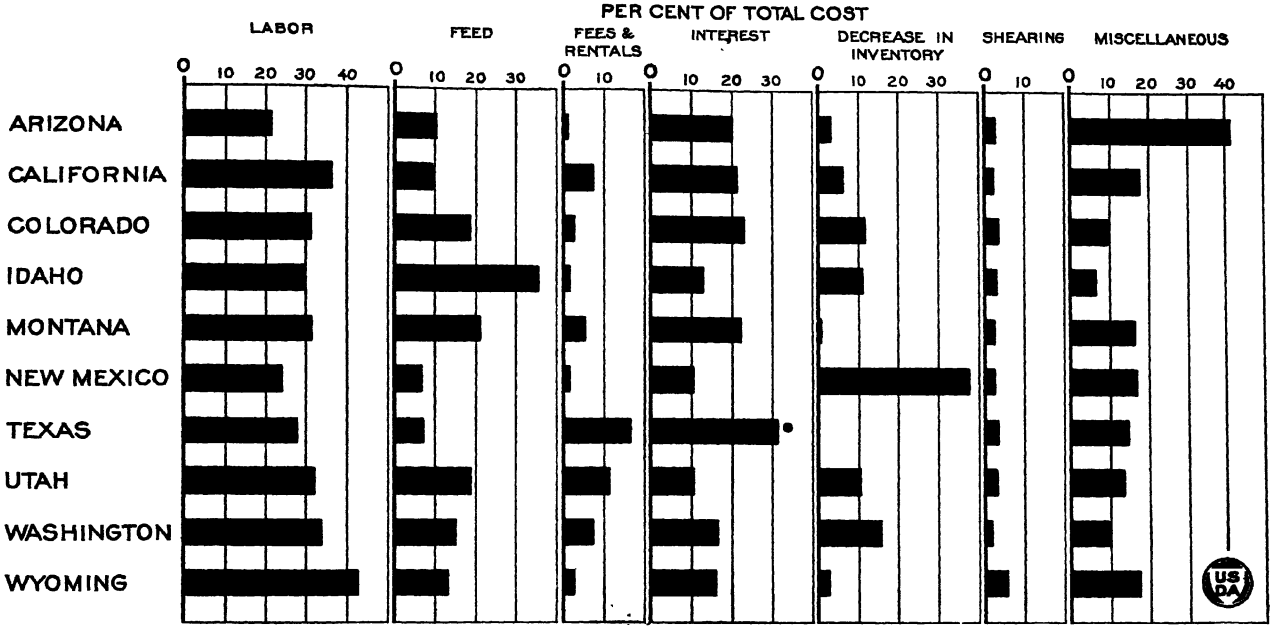


FIG. 31.—Labor constituted approximately one-third of the total cost, varying from 20 per cent in Arizona, where cheap Mexican labor was obtainable, to over 40 per cent in Wyoming, where because of difficulties with new settlers considerable help was necessary. Interest on investment in sheep and land is the next heaviest item of expense, ranging from approximately 10 per cent in States where but little of the range land is owned, to over 30 per cent in Texas, where interest and rental fees constitute nearly half the total cost. In the latter State the sheep are kept on owned or leased land. The feed bill varied from less than 10 per cent in New Mexico and Texas, where the sheep are seldom fed, to over 30 per cent in Idaho, where winter feeding prevails. The heavy decrease in inventory in New Mexico was due to the liquidation following a 3-year drought. In Texas there was an increased inventory, as the sheep men were rapidly expanding their business. (Data from report of the United States Tariff Commission, "The Wool-Growing Industry," Table XXX.)

greatest inflation, but much higher than in 1910. This is because it is now necessary, owing to the more crowded condition of the range, to run the sheep in smaller bands and to depend more and more on the use of supplemental feeds during the winter, and especially because of the generally much heavier investment in land than in 1910.

A comparison of the various items of expense shows that in both periods labor constituted approximately one-third of the total cost (fig. 31). It was generally the largest item, except in Texas in 1918–1921, where the practice of herding was giving way to that of turning the sheep loose in large wolf-proof fenced pastures. In both periods the item of feed amounted to about one-fifth of the total cost. This item varies greatly with the region. In the southern range States, where sheep are kept on the open range throughout the entire year, the feed costs are generally small, except during periods of drought. In the more northern regions, as in Washington and Idaho, where most of the sheep are fed for a period of four or five months during the winter, feed is the largest item of expense.

Interest on the investment in real estate has in recent years become a heavy expense to most operators. In Texas, where many of the sheep are now run in inclosed pastures the year round, interest constitutes nearly one-third of the total cost.

Cost of Keeping Farm Flocks.

Figures obtained for 1910 by the Tariff Board on 543 farm flocks (109,000 sheep) in the Ohio region showed the average cost per head, when feed is figured at the cost of raising, to be $2.44. Figuring the

TREND OF FARM PRICE OF WOOL IN OHIO COMPARED WITH PRICES OF ARTICLES FARMERS BUY AND OF OHIO FARM WAGES, WITHOUT BOARD, 1910–1923.

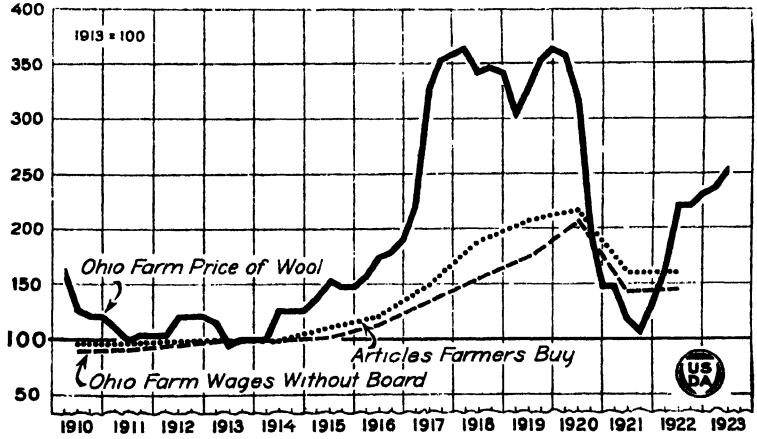


FIG. 32.—Farm prices of wool in Ohio were lower in the last half of 1913 than at any other like period since these prices have been reported by the Department of Agriculture. In June, 1911, and again in October, 1921, prices were nearly as low. High prices prevailed from 1917 to 1920, and were also relatively favorable to Ohio woolgrowers during 1923. The money price in 1923 averaged more than double the 1913 price. Farm wages without board in Ohio and prices of articles farmers buy (general index numbers) were fairly stable until they began to rise early in 1915 and reached the high point in 1920, since which time they have receded to a position about 50 per cent higher than in 1913. (Prepared by S. W. Mendum.)

feed at its selling price on the farm, the average cost was $3.37 per head.

In 1918 the cost of keeping sheep in the Ohio fine-wool section (a part of the same region), based on data obtained from 18 farms, on 16 of which sheep were the major enterprise, was $7.11. This is approximately double the 1910 costs. As a number of the sheep were wethers, 67 per cent of the receipts was from wool and 33 per cent from lambs.

The average cost of keeping a ewe a year on 42 Indiana farms for the 4-year period, 1918–1921, was approximately the same, amounting to $7.18. An average of 1.06 lambs and a 7½-pound fleece was produced per ewe. Two-thirds of the gross income was from lambs and one-third from wool. The average size of the flock was 40 ewes, 9 ewe lambs and 1 ram. In both instances the charge for dry feed was the greatest item of expense, amounting to nearly 50 per cent, while that for pasture came second, amounting to 30 per cent of the total cost in Indiana and 20 per cent in Ohio.

The Indiana sheep were fed an average of 94 pounds of grain, mostly corn and oats, and 204 pounds of roughage, about half of which was alfalfa and clover hay. They were pastured for about eight months. In addition to the regular pasture, they were given the run of the farm and allowed to clean up the fence rows and fields from which crops had been taken.

Cost of Fattening Lambs for Market.

The data available on the cost of finishing lambs for market are for three systems of feeding, as follows: (1) Open-yard feeding west of the Missouri River; (2) fattening in cornfields in the Corn Belt; and (3) feeding in barns in the eastern part of the Corn Belt and in New York. The figures obtained are mostly for the feeding seasons of 1916–17 and 1917–18, although one study includes an average for the five consecutive feeding years of 1912–1917.

The feeding season of 1916–17 was one of the most profitable ever experienced by sheep feeders, as the lambs were purchased at practically pre-war prices and were fed on a steadily advancing market at a time when nearly all agricultural enterprises were highly profitable. The season of 1917–18 was generally quite the reverse. The majority of the lambs were purchased at a prohibitive price, and many were sold at the end of a three to five months' feeding period for less than their original cost.

From the standpoint of the operator, the initial cost—the cost of the feeder lamb delivered at the feed yard—is the heaviest item of expense (fig. 33). This charge, which varies considerably from year to year and also with the distance from the source of supply, usually constitutes from 55 per cent to 70 per cent of the total cost. For this reason it is very important that much care be used in buying the sheep. A mistake in judgment as to their value, or how they will fatten, may cause the feeder a heavy loss. The next largest item of expense is for feed, which constitutes approximately one-fourth to one-third the total. This cost varies not only according to seasonal prices but also with the locality. Hay is generally very cheap in the western irrigated valleys and rather high in the Eastern States. In the eastern feeding districts grain also is more expensive.

The feed used varied with the locality. On the average, 546 pounds of concentrates and 994 pounds of roughage were used by the open-yard feeders in securing 100 pounds of gain. In fattening sheep in the cornfields, 713 pounds of concentrates and 110 pounds of dry roughage (not including cornstalks) were reported as consumed for each 100 pounds gain by the sheep. The amount of corn was unusually high owing to the fact that most of it was soft, having been damaged by frost. The lambs fattened in barns consumed on the average 572 pounds of concentrates and 608 pounds of roughage per 100-pound gain.

State experiment station literature on lamb feeding often reports lower feed requirements. However, the lambs in these experiments

DISTRIBUTION OF THE MAJOR COST ITEMS IN FATTENING LAMBS.

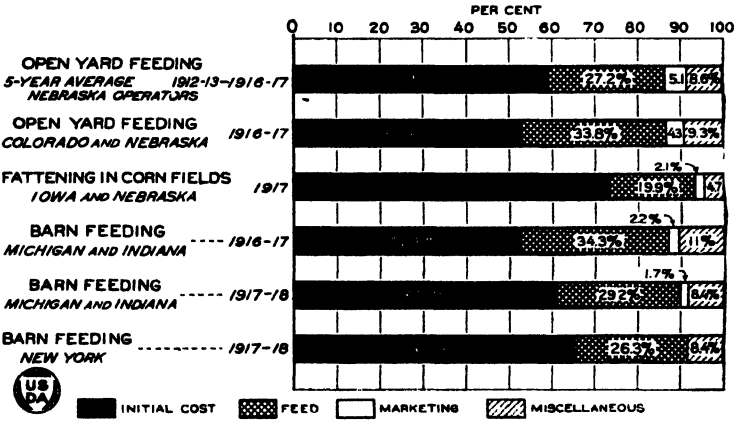


FIG. 33.—The initial cost, which is the cost of the feeder lamb delivered at the feed yard, varied from a little over half the total cost of the fattened lamb for the winter of 1916–17, when lambs were purchased on a pre-war value, to as high as 73 per cent for lambs fattened in cornfields in the fall of 1917, when feeder lambs were at the highest price ever known. The relatively high initial cost of the lambs fattened in cornfields, as compared with those fattened in barns (61 per cent) for the same year, is due largely to the much lower cost of feed and of operating expenses for that type of feeding. Miscellaneous expenses, which varied from about 5 per cent for the lambs fattened in cornfields to a little over 11 per cent for barn lambs of Michigan and Indiana in 1916–17, include labor, interest on investment, risk, taxes, and equipment charges. Marketing expenses, including freight, varied from nothing for the New York lambs sold at the barns to over 4 per cent for the yard-fed lambs.

usually have been carefully selected for the proper weight and feeder condition to secure rapid and economical gains. Skillful feeding and short feeding periods on which some of the experimental data are based also favor especially economical gains.

In the winter of 1916–17 the Indiana Experiment Station fed 224 lambs having an average initial weight of 59.5 pounds.[3] These lambs were on feed 120 days and required 407 pounds of concentrates and 806 pounds of roughage per 100 pounds of gain. The following year 199 lambs having an initial weight of 56.1 pounds were fed.[4] These lambs in a 90-day feeding period consumed, on an average, 404 pounds of concentrates and 828 pounds of roughage. Again, in the

[3] Indiana Experiment Station Bulletin 202.
[4] Indiana Experiment Station Bulletin 221.

winter of 1921–22, 200 lambs having an average initial weight of 61 pounds, and which were kept on feed 90 days, took 361 pounds of concentrates and 877 pounds of roughage.[5] In these Indiana experiments, corn was the principal concentrate and silage constituted approximately one-half to three-quarters of the roughage.

The Nebraska Experiment Station reports that during a 65-day feeding period in the winter of 1914–15 a lot of 50 lambs required 367 pounds of shelled corn and 238 pounds of alfalfa hay per 100 pounds gain, while another lot of 50 lambs required 366 pounds of shelled corn, 205 pounds of alfalfa hay, and 121 pounds of corn silage.[6] The initial weight of these lambs was 53 pounds. The same station reported that in a feeding test, in the fall and winter of 1917, one lot of 35 lambs having an average initial weight of 58.5 pounds kept on feed 58 days required only 298 pounds of shelled corn together with 612 pounds of alfalfa hay for 100 pounds gain.[7] It will be noted that these Nebraska lambs were comparatively light and their short feeding periods favored rapid gains that were unusually economical in feed requirements.

Financing the Sheep Industry.

In the raising of sheep as in other lines of production, it is the exception rather than the rule that the man in position to give his time and efforts to the industry has sufficient capital of his own to enable him to produce on a profitable scale. This is, of course, particularly true of the rancher, who specializes in sheep production, as contrasted with the operator of a diversified farm who raises sheep more or less as a side line to his general farming.

Suitable credit facilities for the sheep producer constitute a part of the larger problem of livestock credit. As compared with cattle, sheep as security for loans are frequently looked upon with rather less favor. Advantages and disadvantages of these two classes of livestock security appear, however, to be fairly well balanced. An important consideration in favor of sheep is that they mature and are ready for market in about one-fourth the time required for beef cattle. Furthermore, the wool clip in the spring provides an income usually sufficient to cover much, if not the whole, of the maintenance cost. Sheep loans, therefore, liquidate themselves much more quickly than do cattle loans, so far as flocks or herds of breeding animals are concerned. On the other hand, sheep are more subject to sudden loss by reason of inclement weather and depredations of beasts of prey. Sheep are also less readily identified, since they can not be branded in the manner so successfully used with cattle.

The sources of credit for sheep producers are commercial banks, wool warehouse companies, and specialized credit agencies generally known as livestock loan companies. While some livestock loan companies lend money on cattle exclusively, others specialize to a considerable extent in sheep loans. In amount the credit extended is usually limited to two-thirds, or at most three-fourths, of the value of the flock. Occasionally, however, loans more nearly approaching actual value are granted where the owner is a man of established

[5] Indiana Experiment Station Bulletin 263.
[6] Nebraska Experiment Station Bulletin 153.
[7] Nebraska Experiment Station Bulletin 157.

business integrity and well equipped in all respects to handle his flocks to best advantage. In such cases the relatively certain and rapid increase in the growth and value of the flock is held to justify a temporary disregard of the usual margin between the amount of the loan and the value of the security.

In the past the credit facilities have been adapted to the needs of the feeder or finisher of livestock rather than to those of the grower. The term of the loan rarely exceeded six months. In the case of the grower or producer of livestock, one or more renewals have generally been expected by both parties to the credit agreement, and in normal times such renewals have, of course, readily been obtained. The difficulty has been that in times of financial stress, such as followed our period of war and post-war inflation, a sudden consciousness of overextended credits gave rise to more or less frantic efforts at retrenchment and liquidation. At such times the rancher has often found his loans falling due and renewals refused him, making it necessary to sacrifice his flocks at heavy loss to himself and to the detriment of the industry.

It seems reasonable to expect that the added credit facilities established and authorized by the agricultural credits act of 1923 will, in large measure, remove the credit difficulties under which the livestock grower has labored. The extension of the term of discount by the Federal reserve banks on agricultural and livestock paper from 6 months to 9 months, and the creation of 12 Federal intermediate credit banks with their powers to make discounts and advances for periods of 6 months to 3 years, should make available to the livestock interests, as well as to agriculture in general, a more ample supply of credit under all conditions and greatly reduce the necessity of relying on frequent renewals of technically short-term loans. The same act also authorizes the organization under Federal charter of privately financed and managed national agricultural credit corporations which have in view primarily the credit needs of the rancher or livestock man.

Marketing Sheep and Wool.

Sheep raising involves the production of both wool and mutton, each of which constitutes a distinct commodity. While there is always a close correlation and interdependence between these two commodities, they differ so widely in nature, use, price, and ultimate distribution, that it is not only desirable but necessary to consider them separately.

The problem is still further complicated by the shifts in relative importance which have occurred in the course of development of the industry. In the early history of the United States sheep were raised almost exclusively for wool. Later mutton became an important market commodity, whereas more recently the production of lamb has assumed a dominating place in the industry. In 1899 sales of sheep and lambs provided 52.3% of the flock receipts in the United States and sales of wool 47.7 %. In 1909 the percentages stood at 56.4% and 43.6% respectively, and in 1919 they were 56.6% and 43.4%.

As late as the middle of the last century wool was so preeminently the reason for the existence of the sheep industry that when, because of a depressed market for that commodity many sheep men

abandoned the business, whole flocks were slaughtered and the carcasses fed to hogs. In contrast to this are the prices paid in February, 1924. During that month the market value of an average weight fleece of wool was about $4.12. The live sheep weighing 90 pounds was worth $7.88 and the mutton carcass $4.81. A live 80-pound lamb, however, was valued at $11.96 and the carcass of dressed lamb resulting from its slaughter $9.04.

Wool is a commodity which enters into world trade and its price is, in general, determined by world conditions of supply and demand. Mutton, however, so far as the United States is concerned, is almost wholly dependent on the domestic market, as the people of this country prefer strictly fresh, rather than frozen, lamb and mutton. Furthermore, the character of mutton is such that, without freezing, it can not be stored satisfactorily for more than two or three weeks.

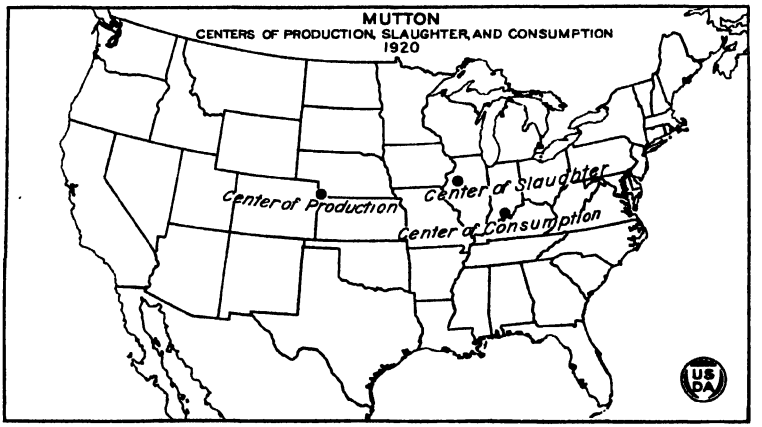


FIG. 34.—Owing to large numbers of sheep on the western range, the center of mutton production is nearly 700 miles west of the center of slaughter. The center of consumption is close to the center of human population, and only about 200 miles east of the center of slaughter. In reality, the regions of greatest consumption are the North Atlantic States and the far West.

Because of this difficulty in keeping fresh lamb and mutton in merchantable condition for any considerable time, and despite the fact that during the last 40 years the center of sheep production has been farther removed from the center of consumption than has been true of any other class of meat animals, and despite the further fact that heavy loss through shrinkage and other causes results from long hauls, live sheep and lambs are frequently transported nearly across the continent in order that they may be slaughtered and dressed as near the point of consumption as possible (fig. 34).

Marketing Sheep and Lambs.

Although very early in the history of America some sheep were slaughtered, the production of mutton was merely incidental to the major interprise of producing wool with which to clothe the colonists' families. For many years there was a decided prejudice against mutton as food. This prejudice still exists to a marked degree in many rural communities, particularly in the more sparsely settled portions of the South and Central West. Apparently this

prejudice is due largely to inefficient and unsatisfactory methods of slaughter and dressing. Another reason for the existence of such prejudice in the early days was the fact that most of the sheep raised were not of the mutton type, and did not produce meat of the best quality and flavor. Still another reason was that most sheep were not slaughtered until they were 4 or 5 years old, when the meat was likely to be tough and unpalatable. Even after the fine-wool breeds were crossed with sheep of the mutton type for the purpose of producing a better animal for slaughter, it was many years before mutton became an important item of trade. Up to the middle of the last century mutton was of so little consequence that when flocks were slaughtered, on account of the wool prices falling below the cost of production, the pelt and the tallow were the only portions of the animal salvaged. The larger centers of population have always furnished the principal market for lamb and mutton.

The consumption of mutton increased greatly after 1870. This increase was due partly to improved methods of slaughter, but chiefly to the development of artificial refrigeration and more particularly refrigerated transportation. The invention of refrigeration made it possible to slaughter sheep and lambs in the Middle West and transport the carcass meat by rail to the Atlantic coast cities. From that time on the sheepman had two strings to his bow, and was no longer wholly dependent on wool for his flock returns. The first change from a strictly wool basis consisted largely in an effort to market ewes in a fairly merchantable condition after they had outlived their usefulness for breeding purposes, and to market wether sheep after they had produced from four to five clips of wool.

Although some lambs were marketed in the nineties they were of so little consequence as a market commodity that no sustained or continuous price quotation records were kept. By 1900, "lamb" had taken a permanent place as an article of commerce and provided the sheepman with a third item of revenue. Since that time lamb marketing has increased greatly. Lambs now constitute from 75 to 90 per cent of the receipts of ovine stock at the principal livestock markets.

One of the striking features of the sheep industry of the last 30 or 40 years is the progressive lowering of the slaughter age. This same tendency is also shown in the cattle and swine industries. Whether the demand for meat from younger animals was responsible for changing production methods, or whether producers developed this demand by slaughtering at an earlier age, it would be difficult to say. In any event, the tendency to market and slaughter animals at a progressively younger age has fitted in well with the producers' increasing costs as well as with the taste of the consuming public. Whereas in 1890 probably 75 per cent of the ovine stock marketed consisted of sheep ranging from 4 to 8 years of age, at the present time approximately 80 per cent of such marketings are lambs ranging from 4 to 12 months old.

Receipts at the public stockyards.—From 30 to 90 per cent of the sheep and lambs marketed in different sections of the country are sent to public stockyards, and probably in the country as a whole fully 75 per cent of the marketing is conducted in this manner. Although practically every public stockyard handles some sheep, as might be expected, the bulk of the offerings goes to those markets

which are either located nearest the areas of production or are situated on the direct route from the producing areas of range States to the consuming centers along the Atlantic seaboard.

During the nine years from 1915 to 1923 the receipts of sheep and lambs at public stockyards averaged about 22,353,000 head annually. The peak was reached in 1919 when 27,256,000 head were marketed. The lightest movement occurred in 1915 when receipts totaled only 18,435,000 head. At that time the World War had been in operation nearly a year and the resulting advance in wool prices provided a strong incentive to retain a much larger proportion of ewe lambs than usual.

As is true of other classes of meat animals, a very large proportion of the sheep and lambs marketed pass through a few of the larger markets. For example, during the nine years from 1915 to 1923 five markets, Chicago, Omaha, Denver, Kansas City and Jersey

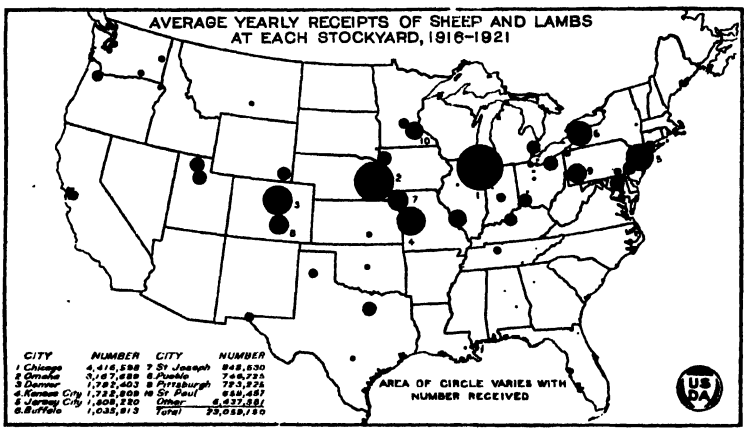


FIG. 35.—Chicago, the premier sheep and lamb market of the country, draws its supplies from the range and from most of the Corn Belt. The Missouri River points, which, in the aggregate, receive more sheep and lambs than Chicago, secure most of their supplies from the range country, with a few from the feed yards. Denver and the other western markets depend principally on range sheep. At Jersey City, Buffalo, and the other eastern markets the receipts are mostly from eastern farm flocks, with some barn-fed lambs.

City, received more than 54 per cent of the total number of sheep and lambs sent to public stockyards in the country. Of the total, Chicago handled 19 per cent, Omaha 14 per cent, Denver and Kansas City each 7½ per cent, and Jersey City about 6 per cent (fig. 35).

Seasonal variation in receipts.—The marketing of sheep and lambs is largely a seasonal matter. This is especially true of lambs, because so large a percentage are marketed as grass-fed stock. When the grass season ends they must go to market. Using the eight years, 1916–1923 as a basis, October stands out as the month of heaviest receipts of sheep and lambs at public markets. During the period mentioned 14.4 per cent were marketed in October. September was second with 12.6 per cent; whereas August and November were tied with 10 per cent each. February was the lightest month with 5.8 per cent, followed by April and March with 5.9 and 6 per cent, respectively. The percentage marketed during each of the remaining five months varied from 6.6 to 7.6 per cent (fig. 36).

Source of market lambs.—The first range lambs to arrive in numbers are the lambs born in sheds in Idaho, Oregon and Washington. They begin coming to market by the middle of June and continue through July. During the next three months the movement from the range increases steadily until it reaches its peak in October. Some lambs are marketed from the range in November, but in many of the heaviest-producing areas winter storms and destruction of summer forage have sent the bulk of stock to market before that time. In October and November many farm sheep and lambs go to market for similar reasons. In December receipts consist largely of short-fed stock, which were bought late in the summer or early in the fall and sent out to clean up stubble fields and farm roughage, and lambs which have been fattened in cornfields. In January most lambs coming to market are from feed lots. In February, March, and part of April practically all of the lambs come from feed lots. In very recent years California spring lambs, which are marketed in April and May.

MONTHLY RECEIPTS OF SHEEP AND LAMBS AT 67 MARKETS; AVERAGE OF 1916–1921 COMPARED WITH 1922.

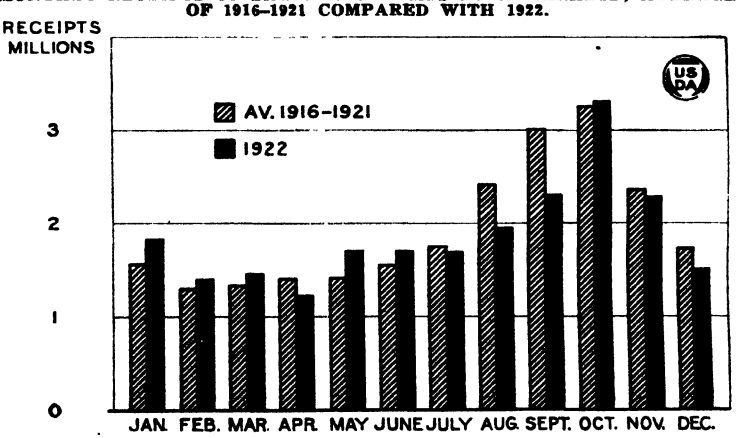


FIG. 36.—October is usually the month of heaviest movements of sheep and lambs. Over a period of eight years October receipts constituted 14.4 per cent of the total movement for the year. February is generally the lightest month, though March and April frequently show movements fully as light as the shortest month of the year.

have become an important factor. These are followed by the early lambs from Tennessee and Kentucky, which are marketed in considerable numbers in May and June. In fact, lambs from these two widely separated producing areas are frequently offered on the market at the same time. By the middle of June the northwestern "shed lambs" have again started to market.

Feeder sheep shipments.—Not all the sheep and lambs marketed are slaughtered immediately, a considerable proportion of them being returned to the country for further finishing. During the eight years 1916–1923, the number of feeders shipped out of central markets varied from 6,956,000 in 1919 to 3,095,000 in 1921. The movement for 1923 was 4,478,000 head. Combined feeder shipments for the eight years constituted 20 per cent of the receipts (figs. 35 and 37).

The different markets vary widely in importance as distributing centers for feeder sheep. On the basis of number reshipped, Omaha is the leading feeder-sheep market of the country with average an-

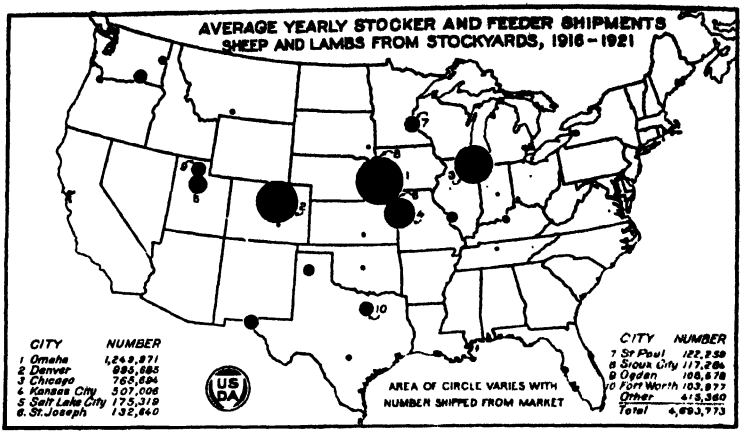


FIG. 37.—Omaha is the leading distributing point for feeder sheep and lambs. Denver shipments go largely to feed yards in eastern Colorado and Nebraska. Chicago, which ranks third, is the main distributing point for the eastern Corn Belt. Kansas City receives large numbers of sheep and lambs from the Southwest, which are distributed for feeding in the lower Missouri Valley. During the six years, 1916-1921, these four markets handled 79 per cent of the feeder sheep and lambs that passed through public stockyards. The circles in the map above represent a much smaller number of sheep for the same area of circle than in fig. 35.

nual shipments during the above eight years of 1,143,236 head. Denver is second with 1,016,324, Chicago third with 745,458, and Kansas City fourth, with 479,281 head. These four markets handle nearly 74 per cent of the feeder sheep and lambs that pass through public stockyards. On the basis of percentage of receipts which are returned to the country as feeders, Denver stands out preeminently. During the eight years mentioned Denver reshipped 56 per cent of its receipts as feeders or breeders; Omaha 37 per cent; Kansas City 28

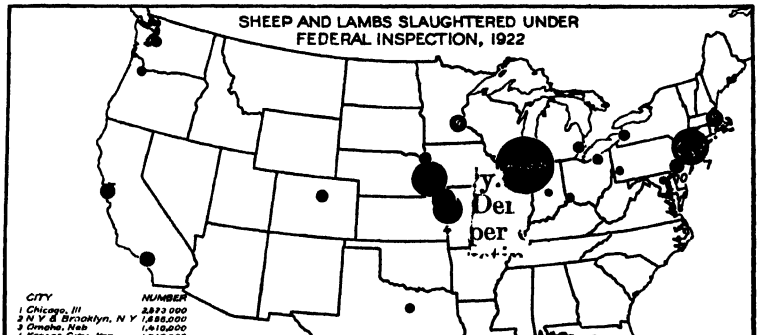


FIG. 38.—The majority of the range sheep are shipped east for slaughter to the large packing houses at Chicago and Missouri River points, all of which are under Federal inspection. Most of the sheep and lambs from the Central States are also slaughtered at these plants. A large proportion of the dressed carcasses are then shipped east for consumption in the industrial centers. The packing houses on the Atlantic coast depend upon the States from Ohio and Michigan eastward for their supplies.

per cent, and Chicago 17 per cent. These four markets combined shipped 31 per cent of their receipts back to the country.

Feeder-sheep shipments are largely confined to the four months August to November, during which time more than 70 per cent of such shipments from central markets usually occur. The heaviest movement takes place in September and October, when the movement of range sheep to market is at its height. Nearly 45 per cent of the feeder shipments for the year occur in these two months. March is the month of lowest shipments.

While the greater number of the feeder lambs pass through central markets, a considerable number are sent direct from the range to feed lots. In some years these feeder lambs are contracted for several months in advance.

Concentration of slaughter.—Sheep and lamb slaughter is more centralized than the receipts figures indicate. Considering total slaughter, both federally inspected and otherwise, during the four years 1920 to 1923, the four markets, Chicago, Jersey City,[8] Omaha, and Kansas City slaughtered over 63 per cent. During that period Chicago slaughtered 26 per cent of the total, Omaha and Jersey City each 14 per cent, and Kansas City 10 per cent. A larger proportion of the sheep and lambs slaughtered in the United States are handled under Federal inspection than of any other class of livestock. Out of a total slaughter in 1923 amounting to 14,818,200, 11,528,550, or 78 per cent were slaughtered under Federal inspection. In that same year only 66 per cent of the cattle and 65 per cent of the hogs slaughtered were federally inspected (fig. 38).

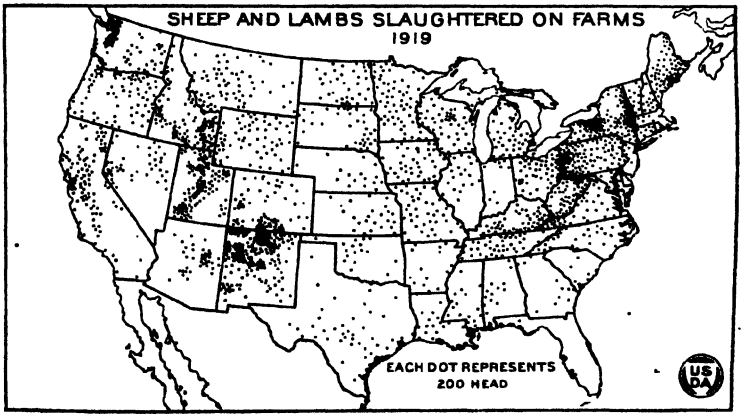


FIG. 39.—In the western range country large numbers of sheep and lambs are slaughtered by herders and camp tenders. In the East, notably the North Atlantic States, farm-dressed mutton and lamb are used for the country home and small town consumption. A dot on this map represents a much smaller number of sheep than a dot of the same size in fig. 38.

The slaughter of sheep and lambs on farms is comparatively light (fig. 39). Such slaughter in 1919 totaled only 434,533 or 3 per cent of the total slaughter of sheep and lambs for that year. The comparatively small size of sheep and lambs makes them especially suitable for farm slaughter, as there is little difficulty in disposing of all the meat while it is still in prime condition. However, sheep

[8] The bulk of slaughter credited to Jersey City actually occurs in Greater New York.

raisers of the farm States have not formed the habit of depending very largely on lamb or mutton for their meat supply. In recent years the relatively high prices of market lambs has naturally encouraged farmers to sell their lambs and slaughter lower-priced beef and pork for home use. Comparatively few local butchers in the smaller towns and villages of the Middle West handle lamb and mutton regularly. These meats are consumed mostly in restaurants, hotels, and city homes of industrial centers.

Market Prices of Sheep and Lambs.

The more important factors which determine the market price of sheep and lambs are available supplies, consumptive demand, grade of the animal, and the price of wool.

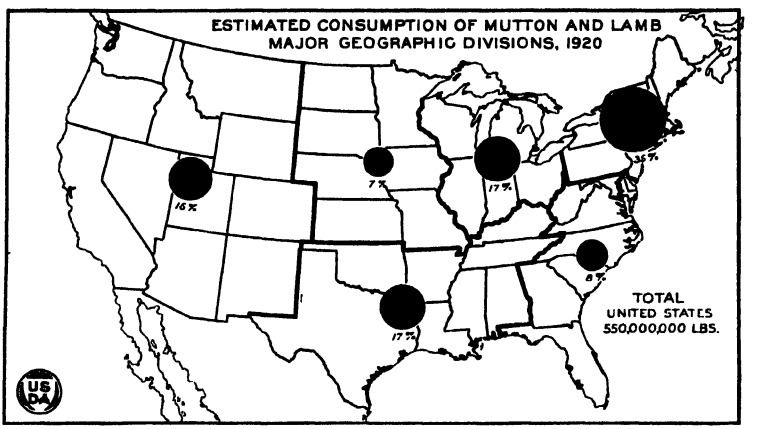


FIG. 40.—Of the total lamb and mutton available for consumption in the United States approximately 35 per cent is consumed in the North Atlantic States. However, the heaviest per capita consumption is in the Western States. The lowest per capita consumption is in the South Atlantic and the West North Central States. These regions jointly consume only about 15 per cent of the Nation's supply.

Available supplies.—As previously noted, the supply of sheep and lambs at market centers varies widely, not only with the season of the year but from year to year. An eighth of the annual receipts usually arrive in each of the two months September and October, one-tenth each in August and November, and only about one-fifteenth in each of the other eight months. The variation from year to year is less but still very large. During the nine years 1915 to 1923 receipts at public markets show an extreme variation of 8,821,000 head, or about 48 per cent of the receipts in the lowest year. However, this wide variation was largely due to war conditions.

Consumption of lamb and mutton.—The consumption likewise varies from year to year. In the 17-year period for which figures are available, 1907–1923 the per capita consumption ranged from 4.6 pounds in 1917 to 8.2 pounds in 1912, an extreme variation of 3.6 pounds per capita, or more than 74 per cent. The importance of such a variation becomes apparent when the further fact is taken into account that there is practically no foreign trade in lamb and mutton, the sheep producer being dependent almost entirely on domestic consumption for an outlet. Table 1 shows that

the variation in per capita consumption of lamb and mutton, though less in number of pounds from year to year than in other meats, is much greater relatively.

Consumption of lamb and mutton also varies widely in different sections of the country (fig. 40). It is greatest in the northeastern and far western sections, least in the South Atlantic and West North Central States. In the western range country the per capita consumption by the rural population is decidedly greater than in the farm States. This is particularly true of Nevada, New Mexico, Utah, and Wyoming, where the average in 1919 was 22.2 pounds, 15 pounds, 8.3 pounds and 7.8 pounds, respectively. East of the Rocky Mountains the per capita consumption by the rural population averages less than 1 pound.

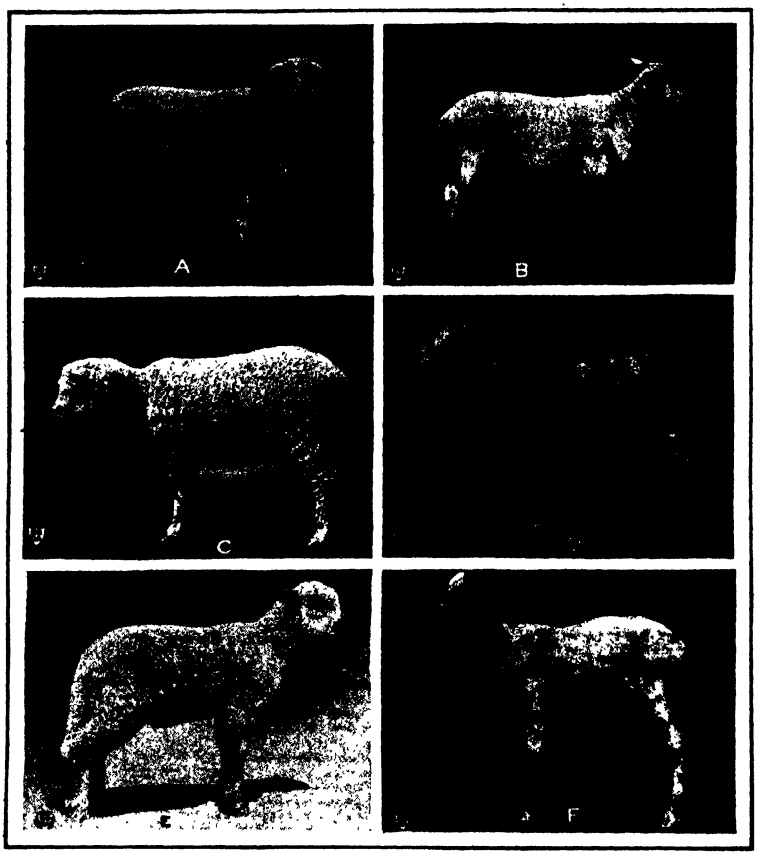
TABLE 1.—*Annual per capita consumption of lamb and mutton, beef, veal, pork, and lamb, 1907–1923.*

Year.	Lamb and mutton.	Beef.	Veal.	Pork, excluding lard.	Lard.	Year.	Lamb and mutton.	Beef.	Veal.	Pork, excluding lard.	Lard.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*		*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1907	6.4	79.7	7.1	74.1	12.5	1916	6.2	57.3	5.3	73.1	14.4
1908	6.2	72.4	6.8	85.4	14.3	1917	4.6	61.1	6.5	58.5	11.9
1909	6.6	76.2	7.5	68.6	11.6	1918	4.7	65.2	7.4	67.6	13.6
1910	6.5	71.8	7.4	60.3	10.5	1919	5.8	58.0	7.7	68.6	12.8
1911	7.8	68.4	7.0	75.1	11.8	1920	5.0	61.2	7.9	69.0	13.1
1912	8.2	61.7	7.0	70.6	11.4	1921	6.2	57.8	7.0	72.9	11.3
1913	7.6	60.8	5.0	72.5	11.7	1922	5.0	61.4	7.3	76.0	14.1
1914	7.5	59.3	4.4	70.3	12.1	1923	5.2	62.5	7.9	91.4	16.4
1915	6.4	56.0	4.3	70.2	13.2						

Grades of sheep and lambs.—Although the general price level of sheep and lambs is largely determined by supply and demand conditions combined with the price of wool, the price of any given lot of sheep or lambs depends chiefly on the grade of the animals which comprise the lot. The grade of sheep and lambs intended for slaughter is determined largely by variations in quality, conformation, and finish. Quality refers to the degree of fineness of bone and relative freedom from coarseness. Fineness and character of fleece also sometimes serve as an index of quality. Conformation refers to the general form, build, or outline of the animal. Finish pertains to the amount and distribution of fat. Lambs are graded as prime, choice, good, medium, common, cull, and inferior in the order named; wethers, prime to cull; and ewes, choice to canner. A canner ewe corresponds to an inferior lamb. Lamb prices at Chicago during October, 1923, averaged $12.30 per 100 pounds for those grading medium to prime, and $9.90 for those grading common to inferior. (Fig. 41.)

Effects of wool prices.—Wool is the third factor which enters strongly into the determination of sheep and lamb prices. Perhaps this commodity is the source of more complications than any other single item. This is due partly to comparatively wide fluctuations in the price of wool, but more particularly to the extreme variations in the amount of wool carried by the animal at various seasons of the year. For example, late in the spring an animal may carry from 5 to 8 pounds of wool. If wool is worth 40 cents a pound the value of the fleece alone will range from $2 to $3.20. Assuming a weight of 85

pounds for the lamb and a price of 12 cents a pound, the total value of the animal would amount to $10.20. Of this amount, however, from $2 to $3.20 represents the value of the wool that the lamb carries, which amounts to approximately 25 to 30 per cent of the total value of the animal. It may happen, however, that although at a given time the animal carries a greater weight of fleece than it did previously, the price of wool has declined in the meantime so that



MARKET GRADES OF LAMBS.

FIG. 41.—Conformation, quality, and finish largely determine the market grades of lambs. Experienced buyers when considering wooled lambs seldom determine grade solely on observation; they invariably handle the animals to discover deficiencies and to determine the degree of fatness or finish. The above cuts illustrate three grades of lambs before and after shearing: A, Choice lamb (wooled); B, choice lamb (shorn); C, medium lamb (wooled); D, medium lamb (shorn); E, cull lamb (wooled); F, cull lamb (shorn).

the increased amount of wool may be worth no more than the smaller amount earlier in the season.

Long-time variations in prices.—In studying sheep and lamb prices over a period of time, one characteristic stands out strongly. Largely because of the fact that lamb and mutton still are considered by some people as luxuries, lamb and sheep prices show a much greater sensitiveness to variations in general business, trade, and economic conditions than do most commodities.

A study of yearly average sheep prices at Chicago from 1893 to 1923 inclusive, indicates that average prices reached their lowest point in 1894, the price for that year being $2.80 per 100 pounds. The highest price occurred in 1918 when the average for the year stood at $12.15. Lamb prices followed a virtually parallel course. For 1894, the Chicago average price was $3.55, and in 1918 it was $16.60 per 100 pounds (fig. 43).

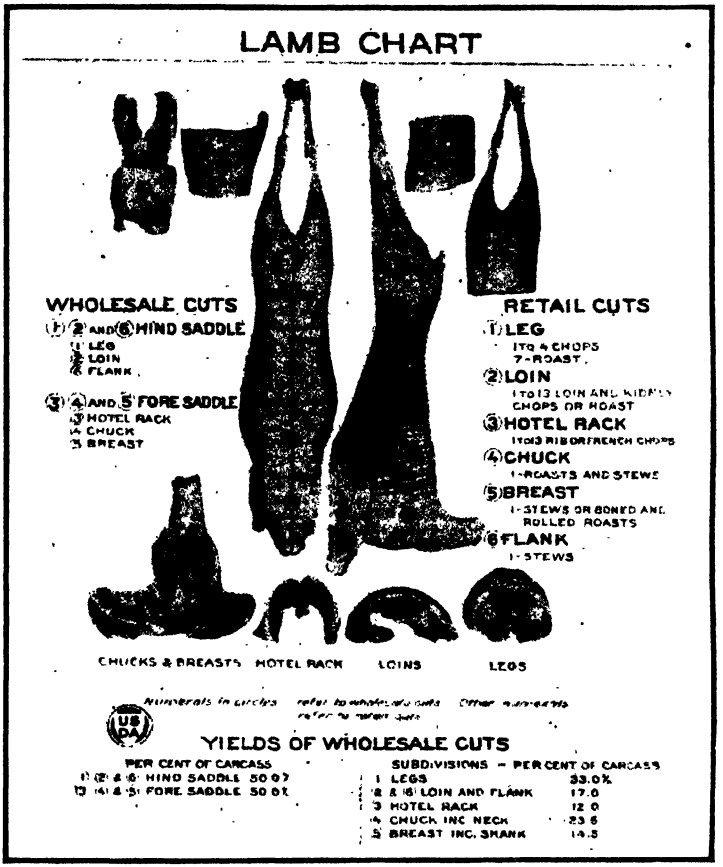


FIG. 42.—Although a lamb carcass produces fewer retail cuts than either beef or pork, a larger proportion of it is used as chops than is true of any other class of meat. This fact, together with the comparatively small size of the various retail cuts, makes lamb particularly suited to the needs of small families and to the mode of living of the average city dweller.

A comparison of both of these sets of prices with indexes of general commodity prices shows that whereas the sheep and lamb market reached the lowest point in 1894, general commodity prices did not reach bottom until two years later, or in 1896. The highest point in the sheep and lamb market was touched in 1918, whereas general commodities did not reach the peak until two years later, or in 1920. This would seem to indicate that, in general, the sheep and lamb market anticipates rather than follows fluctuations in general trade conditions.

YEARLY AVERAGE PRICE OF LAMBS AT CHICAGO, 1893–1922, INCLUSIVE, AND PURCHASING POWER IN TERMS OF THE 1913 DOLLAR.

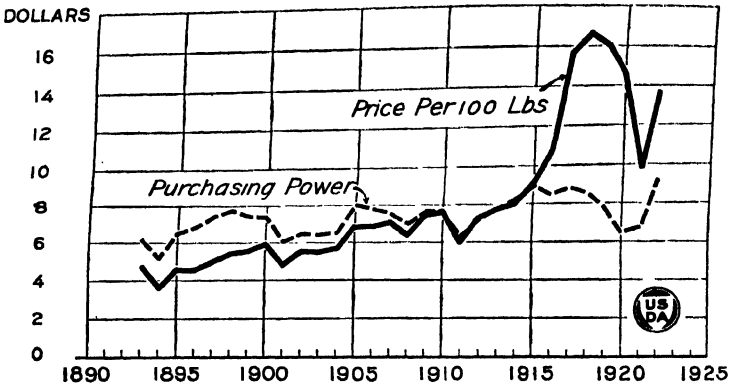


FIG. 43.—Yearly average prices of live lambs advanced more or less steadily from 1894 to 1914, but the purchasing-power price remained at about the same level from 1895 to 1914. Money prices then rose rapidly, but the purchasing-power price declined after 1915, reaching a low point of $6.46 in 1920. Since 1921 the price has risen rapidly, reaching a purchasing-power price of $9.09 in 1922, which is higher than in any previous year for which quotations are available.

It may be of value in this connection to compare actual market prices with the purchasing power of such prices expressed in terms of general commodity prices. In the case of sheep, although the lowest market price was registered in 1894, the lowest purchasing power occurred in 1921. On the other hand, both the highest price and the highest purchasing power occurred in 1918. In the case of lambs the situation was somewhat different. Both the lowest market price and the lowest purchasing power of the period considered occurred in 1894. Although the highest market price occurred in 1918, the highest purchasing power was reached in 1922.

WEEKLY AVERAGE PRICES OF LAMBS AT CHICAGO, 1911–1915 AND 1916–1920 COMPARED WITH 1923.

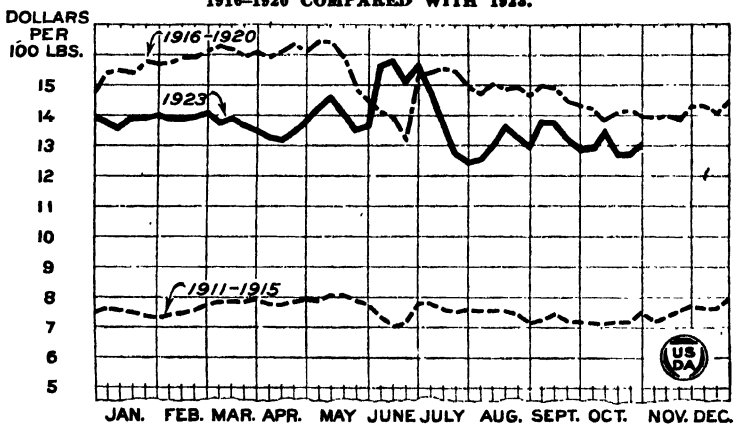


FIG. 44.—Prices of lambs in 1923 were almost double the average price for 1911–1915, which years are fairly representative of pre-war prices, and were nearly as high as the average price during the period 1916–1920. Lamb prices usually reach their seasonal peak in May, though in 1923 the high point occurred about the middle of June. The lowest quotations generally occur in June, owing partly to the fact that many of the lambs going to market at that time are clipped.

Not only are sheep and lamb prices subject to sudden fluctuations, but over a period of time such variations are extremely wide. For example, in the 31 years, 1893 to 1923, yearly average sheep prices varied from $2.80 to $12.15 per 100 pounds—a range of $9.35, or 334 per cent, using the lower number as a base. Lamb prices during the same period varied from $3.55 to $16.60—a range of $13.05 or 368 per cent.

Seasonal variations in prices.—As is true of market movements of sheep and lambs, so also market prices move in fairly well-defined cycles. Some of these cycles as noted are dependent chiefly on changes in general economic conditions. Others depend largely on seasonal supply conditions.

A study of weekly average prices of lambs at Chicago for two 5-year periods, 1911 to 1915 and 1916 to 1920, shows that, as a rule, prices are lowest somewhere between the middle and the end of

DISTRIBUTION OF CONSUMER'S LAMB AND BY-PRODUCTS DOLLAR.

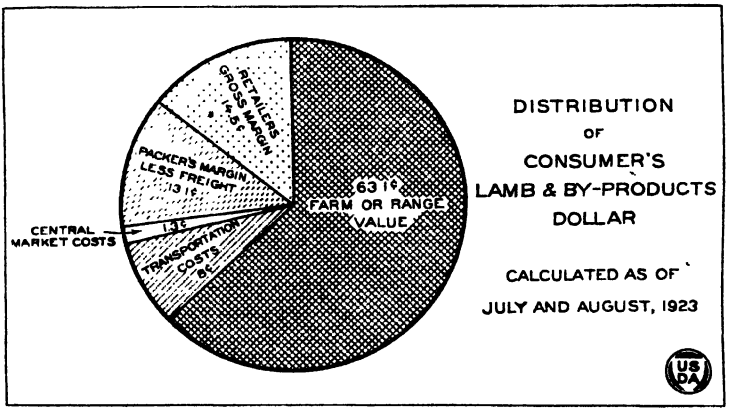


FIG. 45.—Out of the dollar which the average consumer paid for dressed lamb in July and August, 1923, 63.1 cents went to the producer, 14.5 cents were retained by the retailer; 13.1 cents went to the packer; 8 cents were paid to the transportation companies; and 1.3 cents to the various central market agencies, such as commission men and stockyard companies. The proportion of the consumer's dollar received by the various agencies of production and distribution varies somewhat from time to time, with changes in market prices, freight rates, and other charges.

June, and highest around the middle of May (fig. 44). It seems probable, however, that this close proximity of the highest and lowest prices of the year is more apparent than real. By the middle of June most of the lambs coming to market are shorn, whereas a month earlier the bulk of the lambs carry a full fleece. The importance of this feature becomes apparent when shorn lambs first reach the market. The difference between wooled and shorn stock frequently amounts to as much as $1 or $1.50 per 100 pounds and sometimes more.

Because of the varying quantities of wool carried by animals at different seasons of the year, it seems probable that dressed-lamb prices should serve as a better index of the trend of true lamb prices than do the quoted prices of live lambs. Such a study of weekly average lamb prices at New York City over a period of years indicates that, as a rule, dressed lamb prices reach their peak in March or April

and are lowest in September and October. This corresponds very closely with normal fluctuations in market supplies. Live lamb prices average highest in May, not only because the supply is small and a large portion of the lambs at that time carry full fleeces, but also because virtually all of the lambs marketed at this season of the year are either lambs which have been on feed for several months and are therefore in a finished condition, or are spring lambs which sell at a premium because they are relatively scarce.

Abnormal variations in prices.—No study of present-day sheep and lamb marketing would be complete that did not include some reference to the period of liquidation which occurred during 1920 and 1921. Sheep and lamb prices started downward from five to nine months earlier than those of cattle and hogs. This decline had been preceded by an abrupt collapse of the wool market, which in turn caused a heavy liquidation and a glutting of the mutton market. The lamb market was further demoralized by heavy importations of lamb and mutton from New Zealand and Argentina, amounting during 1920 to about 10 per cent of the domestic production.

Lamb prices reached their peak late in January, 1920, when the weekly average at Chicago stood at $20.80 per 100 pounds. From that point, with certain minor fluctuations, the market declined until a low point of $8.35 was reached for the third week in February, 1921. Sheep prices, on the other hand, did not reach their peak until the fourth week in April, 1920, when the weekly average stood at $14.90. From that point, however, the market dropped precipitously, declining approximately $7 per 100 pounds within a 10-weeks period. As was true of lambs, after a slight recovery in July, 1920, sheep prices again moved downward until February, 1921.

It is noteworthy also that despite a decline of $12.45 in 13 months, lamb prices never quite equaled the level of the five pre-war years, 1910 to 1914. Sheep prices, on the other hand, touched that level during the fourth week of December, 1920, and by the first week of the following February had dropped 81 cents below it.

Widening differential between prices of sheep and lambs.—It has already been pointed out that in the course of development of the sheep industry there has been a gradual lowering of the slaughter age. This has been due partly to a change in taste of the consuming public. Relative prices usually serve as an excellent index of relative desirability of different commodities. This is developed rather strikingly by a study of prices over a period of years.

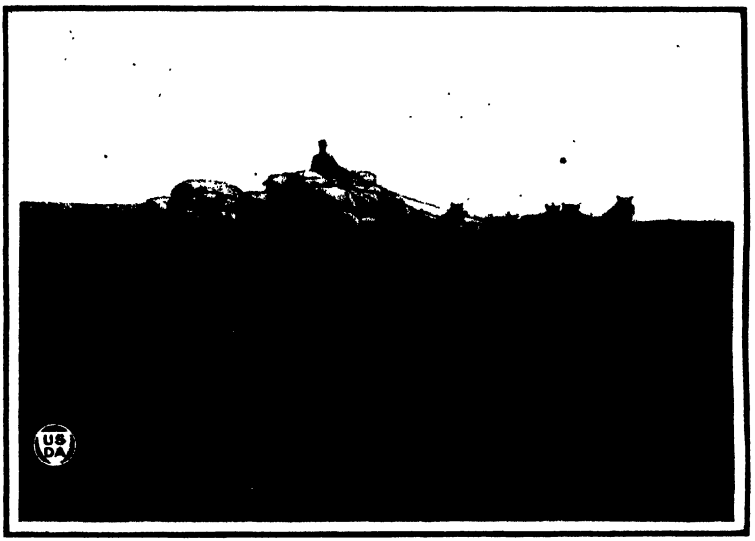
The great bulk of meat animals of the ovine species fall into one or another of three general classes: Sheep, yearlings, and lambs. A comparison of the price of each of these classes from 1899 to 1923 shows that there has been a steady widening of the differential between them. For example, in 1899, yearlings averaged 45 cents per 100 pounds higher than mature sheep, the premium paid for yearlings amounting to 10 per cent of the sheep price. In 1923, however, the year in which the premium was greatest, yearlings brought a premium of $4.05 per 100 pounds, or over 55.5 per cent over sheep.

Following this study a step further, lambs in 1899 brought $1.15 per 100 pounds more than sheep, the premium amounting to 26

per cent. In 1921, although the differential was only $4.75, the per cent of premium paid for lambs as compared with sheep amounted to 93 per cent. In 1922 when the differential expressed in dollars was greatest, lambs brought a premium of $6.30 per 100 pounds, or 87 per cent. In 1923 the differential was $6.20 and the premium in favor of lambs 85 per cent.

Problems in Marketing Sheep and Lambs.

One of the greatest problems in marketing sheep and lambs is that of avoiding the congested markets which occur during the three months, August 15 to November 15. During this period the receipts at the leading markets are frequently much greater than can be readily absorbed. As such gluts almost invariably cause a break in prices, all possible steps should be taken to avoid this condition. Probably the greater number of range operators will always find it necessary to ship at this time. There are, however, many operators



HAULING WOOL ACROSS THE PLAINS.

FIG. 46.—In the western range country wool is frequently hauled for a distance of 100 or more miles to the railroad. Owing to its high value per pound, it can be hauled farther than almost any other agricultural commodity.

who can just as well get their lambs on an earlier market, or if the lambs are not suitable for slaughter, hold them in valleys for a few weeks or ship direct to the feed lots. That efforts are being made to avoid shipping during this period of peak supplies is evidenced by the large percentage of the Pacific coast and Idaho growers who aim to market their lambs from April through July.

The autumn congestion is still further aggravated by the large number of native lambs, a large percentage of which are of inferior quality, that are marketed at this time. These inferior native lambs have a decidedly depressing influence on the market. Not only do they hurt the sale of good lambs, but because of their inferior condition due to poor breeding, insufficient feed, internal parasites, or lack of castration and docking, they yield a poor quality of meat and are

generally produced at a loss. This problem is one of giving the sheep more and better attention as well as giving more attention to the market requirements.

Sheepmen also are confronted with the problems of relatively high transportation and marketing charges. On some classes of sheep these charges reduce profits to a dangerously small margin.

Marketing Wool.

Wool is one of the important items of world commerce. In the early days virtually every family produced sufficient wool to meet its own needs. There was, therefore, little or no marketing of wool. With the division of labor, however, and the concentration of population in the cities there came the demand for specialization in wool production.

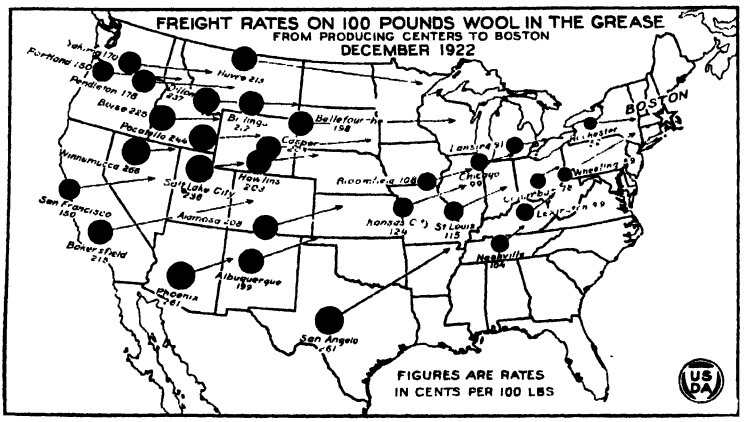


FIG. 47.—The freight rate in December, 1922, on 100 pounds of wool in the grease from Pocatello, Idaho, to Boston was $2.44; from Pendleton, Oreg., $1.78; and from Portland, Oreg., $1.50. The rate from Salt Lake City, Utah, was $2.36; from Winnemucca, Nev., $2.66; and from San Francisco, $1.50. The rate from Phoenix, Ariz., was $2.61; from Albuquerque, N. Mex., $1.99; from San Angelo, Tex., $2.61; from Kansas City, Mo., $1.24; from St. Louis, Mo., $1.15; and from Columbus, Ohio, 78 cents. The rate from Rawlins, Wyo., was $2.03; from Billings, Mont., $2.12; from Bloomfield, Iowa, $1.08; from Chicago, 99 cents; and from Rochester, N. Y., 52 cents. It appears that the zone of highest freight rates to Boston extends from western Montana and eastern Idaho through Utah and Nevada to Arizona.

Separating the center of production from that of consumption gives rise to marketing. Generally speaking, the farther these two points are from each other the more complicated marketing becomes. Wool generally can be produced more cheaply in regions that are undeveloped agriculturally. Due to its relatively high value per pound it can be transported long distances and still yield a profit to the producer. Because of these facts wool production has been mostly a frontier enterprise. Wool consumption, on the other hand, is greatest in the more densely populated regions. For these reasons it is probable that wool is transported over longer distances than any other important commodity (figs. 46 and 47).

International Trade in Wool.

Nearly half of the world's present supply of wool is produced in the Southern Hemisphere. On the other hand, the greater part of

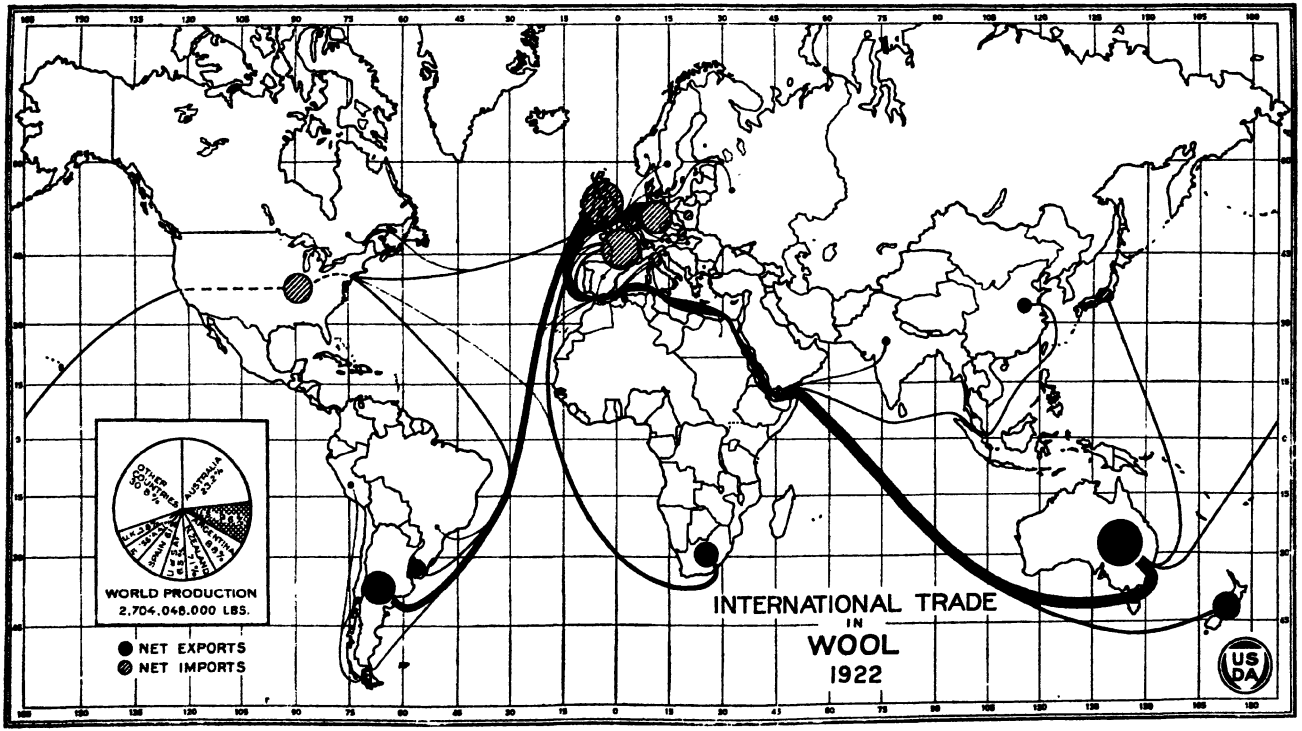


FIG. 48.—The heaviest exporters of wool are the sparsely populated, recently developed countries of Australia, Argentina, New Zealand, South Africa, and Uruguay. These countries supply the fine wools. Most of the carpet wools come from China, India, and western Asia. The heaviest importers of wool are the densely populated, industrial countries of western Europe and eastern North America. The wool trade largely centers in Europe. The United States imports much of its wool through London and Liverpool, but a smaller proportion than before the war.

the wool is consumed in the Northern Hemisphere, the latter being much more densely populated. The leading countries in the exportation of wool are Australia, Argentina, New Zealand, British South Africa, and Uruguay, in the order named. (Fig. 48.)

The leading importing countries are the United Kingdom, France, Germany, United States, Belgium, and Japan. The United Kingdom and the United States are both heavy producers and large importers of wool. British India exports considerable quantities of wool, which is mostly carpet wool. It imports, however, nearly as much as it exports, most of the imported wool being used for clothing purposes.

The United Kingdom is the greatest wool-handling country of the world. A large percentage of the colonial wools and also a consider-

SOUTH AMERICAN WOOL ON COMMONWEALTH PIER, BOSTON, MASS.

FIG. 49.—Interior view of Commonwealth Pier, Boston, showing 24,700 bales of South American wool, valued at $12,500,000, just as it was unloaded from the boat on January 28, 1917. The second floor of the pier contained, in addition, wool valued at $1,750,000.

able amount from South America and other countries are shipped to that country for sale. Bimonthly auction sales are held at the London Wool Exchange in which a large assortment from all parts of the world is available. While much of the wool is sold for domestic consumption, large quantities are reexported to the United States and to continental Europe. World prices for wools used in the manufacture of clothing are virtually established at the London market. Similar sales are held at Liverpool and other cities. Liverpool is the leading exchange market for carpet wools.

In recent years there has been a growing tendency for the importing countries to buy directly from the exporting countries, and the Australian auction sales have reached considerable importance. The wools of South America are sold largely by private contract. Before

the World War most of the wool imported by the United States was purchased on the British markets. In 1919, however, Great Britain stood sixth from the standpoint of exports to this country, Argentina standing first. (Fig. 49.) The following year, however, the United Kingdom was back in second place, where it has since remained.

Although the United States ranks third in the production of wool, the average for the last 35 years amounting to approximately 300,000,000 pounds per annum, it has never produced sufficient quantities to meet its needs. For some years prior to the World War yearly imports of wool to the United States averaged about 200,000,000 pounds. In 1918, the peak year, they amounted to 453,727,000 pounds. Boston, which is the second largest wool market of the world, is preeminently the leading wool market of the country. Receipts of foreign and domestic wool at that point amounted to

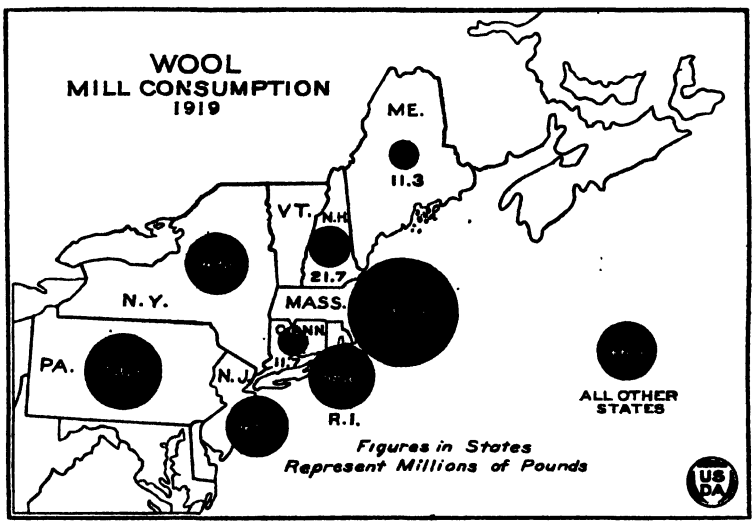


FIG. 50.—The manufacture of woolen goods is very largely concentrated in the North Atlantic States. Ninety per cent of the mill consumption of wool in the United States is in these States. The industry centers mostly around Boston and Philadelphia. Massachusetts leads in consumption, manufacturing nearly a third of the total. The remaining 10 per cent of mill consumption is not reported separately by States in the census. The consumption in Vermont therefore can not be shown. The figures are based on mill purchases, part of which is in the grease and part scoured.

507,000,000 pounds in 1917, and 416,000,000 pounds in 1923. In some years Boston handles as much as 75 per cent of the domestic wool and occasionally as high as 70 per cent of the imported wool (fig. 50). Philadelphia handles considerable quantities of domestic and foreign wools, while New York receives considerable quantities of imported wools.[9]

Methods of Marketing Wool in the United States.

The methods of marketing wool in this country have changed somewhat from time to time, and there are also some variations in differ-

[9] The estimated domestic production, net imports, and estimated consumption of wool for 54 years—1870 to 1923—are shown in Table 546—entitled "Wool, raw: Production, Imports, Exports, and Apparent Consumption, United States, 1870–1923," in Statistical Appendix, page 1001.

ent parts of the country. However, until recent years the general plan of marketing did not differ materially from that in use in the early days of the country.

The more important agencies involved in getting wool from the producer to the consumer are the country buyer, the country assembler, the central market dealer, the commission merchant, the broker, and the manufacturer. In the farm States the country buyer gathers up small lots of wool and either sells them to some merchant in town or holds the wool in his own warehouse. The central market dealer sends his agents through these smaller towns or concentration points and buys such of the wool as is suited to his needs. The wool is then shipped to some large center, where it is graded on the basis of mill requirements, and finally sold to the manufacturers.

Another form of marketing is one in which the growers consign their wool to wool warehouse companies and usually obtain advances amounting to a certain per cent of the market price of their wool. The warehouse company grades the wool and holds it for the inspection and purchase of the broker or mill agent. When the wool is sold the warehouse company remits to the grower the price obtained less any advances that may have been made, interest due on money already advanced, and a certain charge per pound for grading and carrying.

Recently the cooperative idea has been applied to wool marketing. Great quantities of wool are now assembled annually by wool pools which are, generally speaking, cooperative organizations made up of woolgrowers. The wool of the individual growers is assembled and pooled at some point, where it is graded and held for the inspection of wool buyers. Frequently advances are made on the wool so pooled. The buyers, who may represent brokers or mills, visit the points where wool is assembled and bid on the wool either in job lots or by grade, depending upon how the wool has been handled by the pool.

In the range States wool selling is quite different from that in farm flock-regions. Contracting the sale of the clip before shearing has been practiced by many ranchmen, especially when the contract provided for an advance payment, or at times when there appeared to be danger of a decline in wool prices. However, wool growers have usually lost heavily by this system, and in general they now consider it unbusinesslike. Much of the range wool is sold to eastern dealers at shearing time or very soon thereafter, the buyers dealing directly with the wool grower at his shearing shed or warehouse. This method is sometimes handled by sealed bids, each buyer offering his bid under seal, each ranchman or group of ranchmen reserving the right to accept or reject any or all bids. Much wool from the range is also consigned to commission houses in large wool centers, most of it going to Boston, Philadelphia, Chicago, St. Louis, and other Missouri River points. Part of that consigned from the Washington-Oregon-Idaho district goes to Portland, Oreg.

Much effort has been spent in attempts to work out systems of cooperative marketing of range wool, and considerable progress has been made, though naturally the movement has not developed to the same point in the range country that it has in some of the farm-flock areas. Many systems have been tried out, ranging from very simple and temporary organizations handling sealed bids that are accepted

INCREASE IN AVERAGE WEIGHT OF FLEECE, VERMONT, OHIO, OREGON, AND NEW MEXICO.

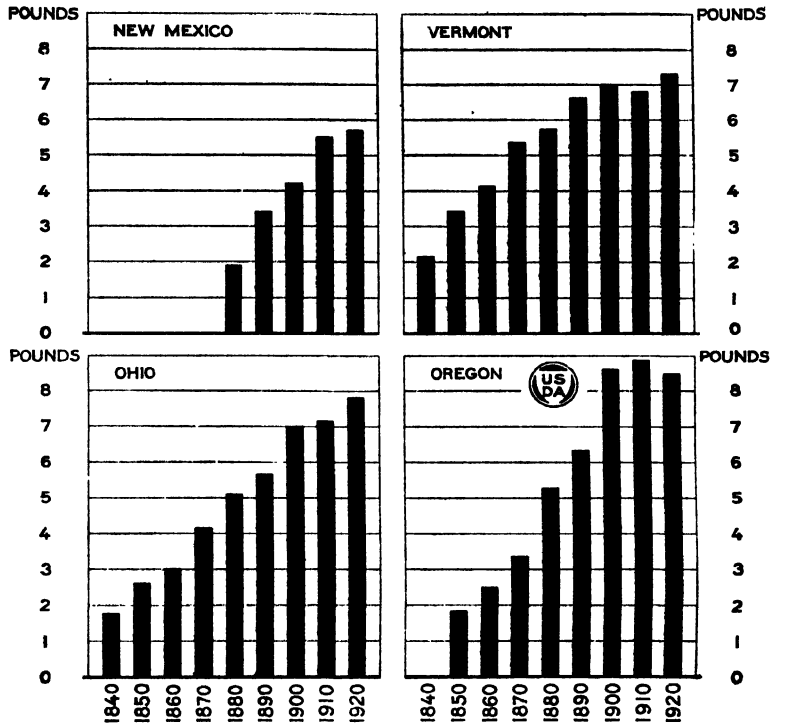


FIG. 51.—By introducing new strains and by careful selection for heavy shearing qualities in the breeding flocks woolgrowers have increased the average fleece weight from about 2 pounds in 1840 to 7 or 8 pounds by 1920 in Vermont, the Mid-West and the far Northwest. In New Mexico the average fleece weight has increased from about 2 pounds in 1880 to almost 6 pounds at present.

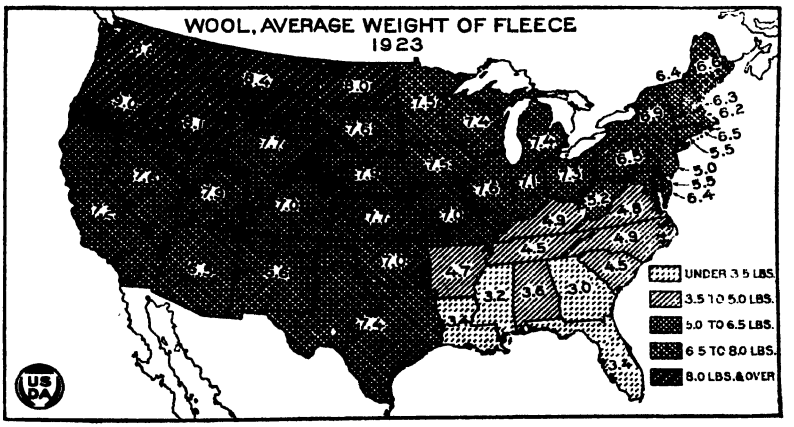


FIG. 52.—In recent years fleece weights of 7 or 8 pounds are the rule, except in the Southeastern States, where the weight ranges from 3 to 5 pounds, and in the North Atlantic States, where the average fleece ranges from 5 to 7 pounds. The weight of the fleece varies somewhat from year to year, depending upon feed and climatic conditions.

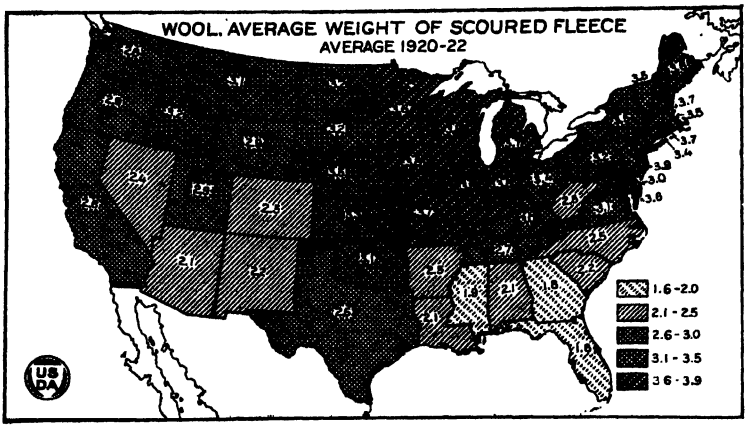


FIG. 53.—Fleeces from the desert range shrink on scouring about 60 to 70 per cent, while fleeces from the farming States shrink only about 40 to 50 per cent. The heaviest fleeces in the grease come from the northern range States (fig. 52), whereas the heaviest fleeces after scouring are from the North Central States. It is worthy of note that the southwestern fleeces are little heavier than those from the Southeast after scouring.

or rejected by the sales committee, to permanent, incorporated organizations serving in the capacity of commission houses and dealing on the basis of binding, legal contracts with the growers. When the wool market is in a healthy condition there is a fair degree of competition among buyers in those parts of the range area that yield large quantities of desirable wool, and a number of buyers are attracted to a given community. The results of some of the cooperative selling indicate that it helps to make competition among buyers even more keen and facilitates business-like transactions. It promises also to alleviate, to a certain degree, heavy overloading and serious depression of the market.

A striking peculiarity of the wool market of the United States is the fact that although from 550,000,000 pounds to 750,000,000 pounds

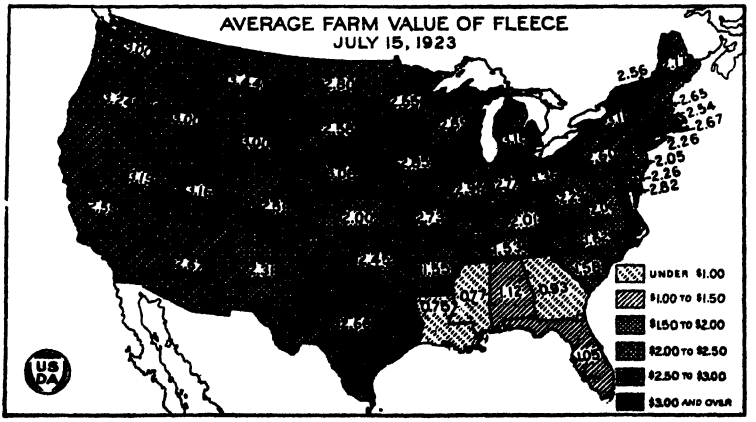


FIG. 54.—The farm value of fleeces is usually highest in Ohio and Montana, followed by Oregon and Michigan, and is lowest in the Southeastern States. In the other States the average farm value of fleeces ranged mostly between $2 and $3 in 1923.

of wool with a total valuation ranging from $112,000,000 to $350,000,000 are handled annually, there is no established public market for the commodity. Practically all of this vast quantity of wool is bought and sold by private agreement. Another peculiarity is that while there is no open public or auction market a very large proportion of the wool passes through two or three leading centers. In other words, the marketing of wool is probably more concentrated than that of any other important commodity.

Grades of Wool and Their Uses.

Wool is extremely complex and varied in its characteristics. As a commodity of commerce it is one of the most difficult to classify and grade for the systematizing of trade. While the variation in wool occurs somewhat in correlation with the types and breeds of sheep, wide variations exist within the breeds. Fleeces having the same fineness (diameter of fiber) often vary greatly in strength of fiber, spinning properties, length, and the contents of grease (natural wool oil) and dirt. Soil, climate, and feed have far-reaching influence on the production of wool. In some sections of the western range where grass is sparse and sand storms are frequent, fleeces of Merino or Rambouillet sheep may shrink as much as 65 to 75 per cent or more in grease and dirt, when scoured or cleaned preparatory to manufacture, while fleeces from sheep of these same types when grown on excellent bluegrass pastures where sand storms seldom, if ever, occur, may shrink only 50 to 60 per cent (figs. 52 and 53). Such characteristics as strength of fiber, spinning property, and length of staple are also affected by the conditions of soil, climate, and feed.

Commercial grades of wool are based primarily on fineness or diameter of fiber. The very finest of wool is known by the grade term "fine." Wool of this grade is produced by Merino or Rambouillet sheep. "Half-blood" wool is the next grade coarser than fine, but it is commonly considered a fine wool; that is, the fibers have smaller diameter than those of the wool which is commonly called medium wool. A large percentage of the half-blood wool is grown on sheep having considerable Merino or Rambouillet inheritance. It should be understood that the word "blood" is a wool grade term and has no reference to the breeding of the sheep, but the use of a fraction in connection with the word blood indicates a certain fineness or diameter of fiber. "Three-eighths blood" is the finest and "quarter blood" the coarsest of what is known as medium wool. These grades are produced chiefly by the medium-wool mutton breeds such as Southdowns, Shropshires, and Hampshires; also by the crossbreds resulting from mating the fine and long-wool breeds, which is extensively done on the western range. "Low-quarter blood" is coarser than "quarter blood," but the finest of what is known as coarse wool. "Common" is medium in coarseness, and "braid" the coarsest of coarse wool. Oxfords produce a great deal of "low-quarter blood" as well as "quarter blood," and all grades of coarse wool are grown on the long-wool breeds, such as Lincolns, Leicesters, and Cotswolds.

Fine and half-blood wools are used in the finest of dress goods, and choice wool of these grades is usually in strong demand. The modern tendency toward mutton production is increasing the propor-

tion of three-eighths and quarter-blood wools, and in a relative sense the supply of fine and half-blood is being reduced. The three-eighths and quarter-blood wools are used in the manufacture of coarser clothing for which there is a large demand under normal conditions.

Low-quarter blood, common, and braid are used in the coarsest of goods such as heavy overcoating, blankets, and carpets. Both demand and prices for the three coarsest grades are less, and they are not produced so abundantly in America as the fine and medium wools. Wool of good length (about 2½ to 3 inches long) is desired for the manufacture of choice, durable worsted goods. When wool has fibers only about 1 to 2 inches long, it is used largely in the manufacture of woolens or flannels.

Grading of wool by the grower was very uncommon in this country prior to the World War. There is to-day, however, a marked tendency on the part of those who pool or consign their wool to sell by grade. Selling any commodity ungraded is bound, in the long run, to work to the advantage of the buyer. This must be true because the buyer is naturally in a better position to judge the true value of ungraded commodities than is the average producer. The United States Department of Agriculture has established grades for wool based on diameter of fiber.

Prices of Wool.

Wool prices, like those of sheep and lambs, have followed a rather tortuous course during a period of years. Fluctuations in wool prices, while not so wide as those for mutton and lamb, have exceeded in extent and violence those in most other important commodities. One reason for these wide variations is the fact that wool is a world commodity and its price level is, to a considerable extent, determined by world conditions of supply and demand. Another reason is the fact that almost from the founding of the country wool has been the

YEARLY AVERAGE PRICE, PRODUCTION, AND IMPORTS OF WOOL, 1890–1922; PERCENTAGE OF THE AVERAGE FOR 1909–1914.

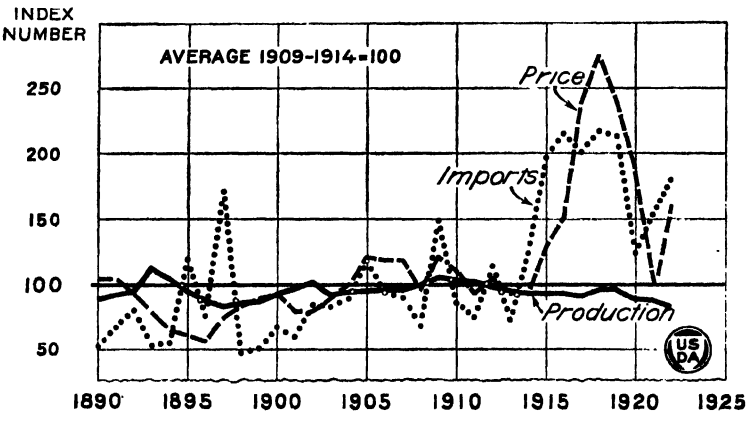


FIG. 55.—As a rule there is a close relationship between wool prices and imports into the United States. Both prices and imports reached their highest points in 1918. Domestic production of wool has been fairly constant during the past 30 years.

PRICE OF "WASHED" MEDIUM OHIO FLEECE WOOL AT ATLANTIC SEABOARD MARKETS, AND PURCHASING POWER, 1824 TO 1922.

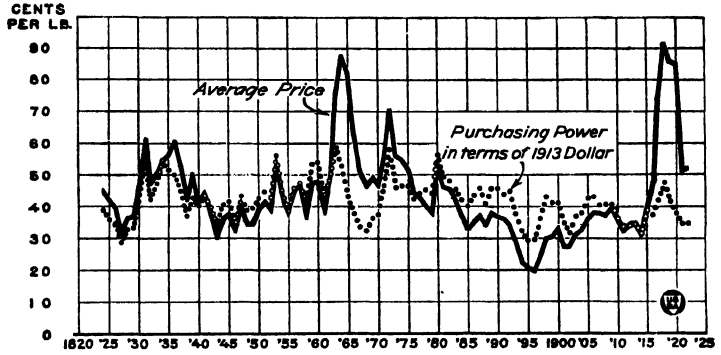


FIG. 56.—Since 1824 there have been two long-time cycles of falling and rising prices—the first from 1836 falling until 1843 and rising until 1864; the second falling from 1864 until 1896 and rising again until 1918. In general, wool prices have followed the trend of the general price level. Within these long-time cycles there are short cycles with annual fluctuations, which are the result largely of expanding and contracting wool production. The Civil War and the recent World War caused prices of wool to rise quickly, and these high prices were followed by sudden drops at the close of these wars. Panics, such as those of 1837 and 1893, also affect the price of wool.

subject of various legislative enactments. Probably no tariff bill has been enacted in the United States that did not either impose, raise, lower, or eliminate import duties on wool. These artificial influences have had a tendency to modify the natural play of economic forces, and have resulted in materially changing available supplies of wool in the United States and, therefore, in raising or lowering prices (fig. 55).

A study of yearly average prices of medium-grade wool over a period of 100 years shows that the market averaged lowest in 1896, when washed, medium, Ohio fleece wool was quoted in eastern markets at 19.5 cents a pound; and was highest in 1918, when the same grade averaged 91.5 cents. The range between these two extremes amounted to 72 cents or 369 per cent (fig. 56).

If the market price of the above-named grade of wool is compared with its purchasing power in terms of all commodities, one is likely to be impressed with the rather close correlation which, under normal conditions, exists between the two. Although the market price and the relative price are rarely identical, it is believed that during a period of time the purchasing power of wool comes as near equaling the market price as do most important agricultural commodities. In other words, the wool market is, generally speaking, a fair index of the general level of commodity prices.

In 17 of the first 18 years beginning with 1824, the market price of wool exceeded somewhat its purchasing power in terms of other commodities. During the next 20 years, however, the purchasing power exceeded the market price. During the Civil War although wool prices advanced sharply they did not keep pace with prices of other commodities. By 1877 the market price had again dropped below the purchasing power and remained so until 1912. From 1915 through 1923 the market price was consistently higher than the purchasing power (figs. 55 and 57).

YEARLY AVERAGE PRICE OF "UNWASHED" OHIO FINE WOOL AND 3/8 BLOOD, AT BOSTON; AND PURCHASING POWER IN TERMS OF THE 1913 DOLLAR, 1890–1922.

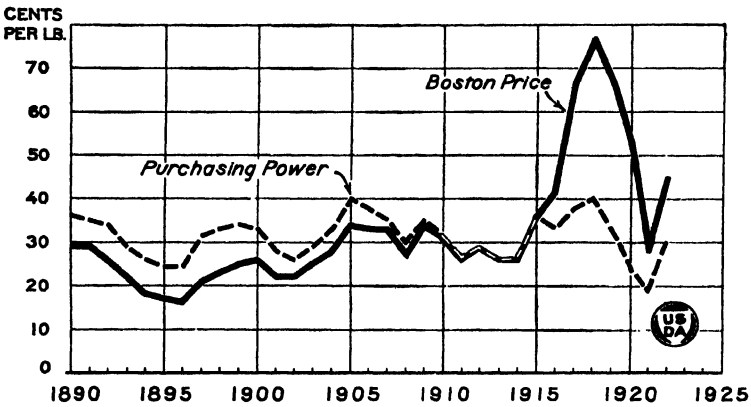


FIG. 57.—The trend of wool prices was downward from 1890 to 1896, upward from that year to 1905, fairly stable till 1909, and then slightly downward until 1914. In the latter year a sharp advance began which culminated in 1918. The purchasing power of wool in terms of the 1913 dollar exceeded the money price until about 1910. In 1915 a wide divergence between the two began, and for the peak year of 1918 the yearly average price of 77 cents had a purchasing power of only 40 cents in terms of all commodities. In 1923 the average money price was 55 cents and the purchasing-power price was 36 cents. These 1923 figures were received too late to include in the graph.

War invariably stimulates the demand for wool, and therefore advances prices. During the Civil War period wool sold up to $1 a pound. In 1867 the market broke sharply, but during 1871 and 1872 prices rose to a relatively high level, the Franco-Prussian War in Europe being an important factor in the advance. In 1873 a business panic occurred, and from that time until 1879 wool prices declined rather steadily. The revival of business which occurred in 1879 resulted temporarily in higher prices for wool, but with

MONTHLY AVERAGE PRICE OF "TERRITORY" AND "FLEECE" WOOL AT BOSTON, 1910–1923.

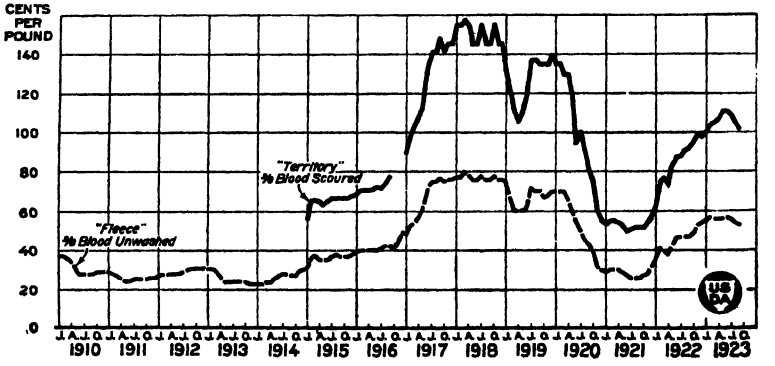


FIG. 58.—Wool prices were fairly steady from 1910 to 1914. In 1915 the market started definitely upward and, so far as medium grades were concerned, reached the peak in 1918. After a secondary advance during the speculative period of 1919 prices broke sharply and reached the low point about the middle of 1921. Since 1921 prices have more than doubled.

certain fluctuations, wool prices declined after 1880. By this time increased wool production in the Southern Hemisphere began to have its effect on wool markets and by the middle eighties there was a pronounced decline in wool prices, and the panic of 1893 hastened this downward movement. In the next few years the prices increased slightly. However, the average for the period of 1901 to 1910 was lower than that of the years from 1840 to 1890, if the Civil War period be excluded. In 1913 the trend of wool prices was downward, but there was a recovery in the following year.

During the World War prices broke all previous records, fine staple territory wool on a scoured basis at one time selling at $1.85 per pound at Boston. On the signing of the armistice, prices broke but recovered rather quickly after the reopening of the London wool sales in April, 1919. During February and March, 1920, prices advanced to $2.05 per pound. Presently the market turned extremely dull and prices started downward. As a matter of fact, quotations from June to December of that year were largely nominal, there being but few actual sales.

Although the wool trade revived somewhat in 1921, prices were comparatively low. The average price at Boston of three-eighths blood, unwashed Ohio and Pennsylvania wool was 26 cents a pound for the three months, July, August, and September. The average price for the year was 28 cents compared with 53 cents in 1920, 67 cents in 1919, and 77 cents in 1918. Toward the end of the year trade improved and prices advanced somewhat. Generally speaking, the market was active throughout 1922 and 1923. The average price for the full year 1922 was 17 cents higher than that of 1921; and the average for 1923, 10 cents higher than 1922, or 27 cents over that of 1921 (fig. 58).

Problems in Marketing Wool.

Largely because of the dual character of the industry in which he is engaged, the sheepman probably is confronted with more serious marketing problems than either the cattle or hog producer. To conduct his marketing intelligently, the sheepman must keep in touch with conditions prevailing in two markets which differ widely in almost every respect. One of the commodities which he produces enters extensively into world trade. The other depends for an outlet almost entirely on domestic requirements.

In general, prices for wool and those for dressed lamb and mutton follow somewhat parallel courses (fig. 59). This is probably due largely to the fact that although wool is more of a necessity than lamb and mutton, the prices of both, as a rule, follow rather closely the trend of general business prosperity or depression.

Wool, although a world commodity, is imported rather than exported. The sheepman therefore is vitally concerned with any import duties which may be imposed on foreign wool and in the removal or modification of such duty.

Another problem with which the sheepmen must deal is the lack of an open public wool market corresponding with the London wool

AVERAGE PRICE OF LIVE AND DRESSED LAMB AT CHICAGO, AND 3/8 BLOOD UNWASHED WOOL AT BOSTON, 1903–1923.

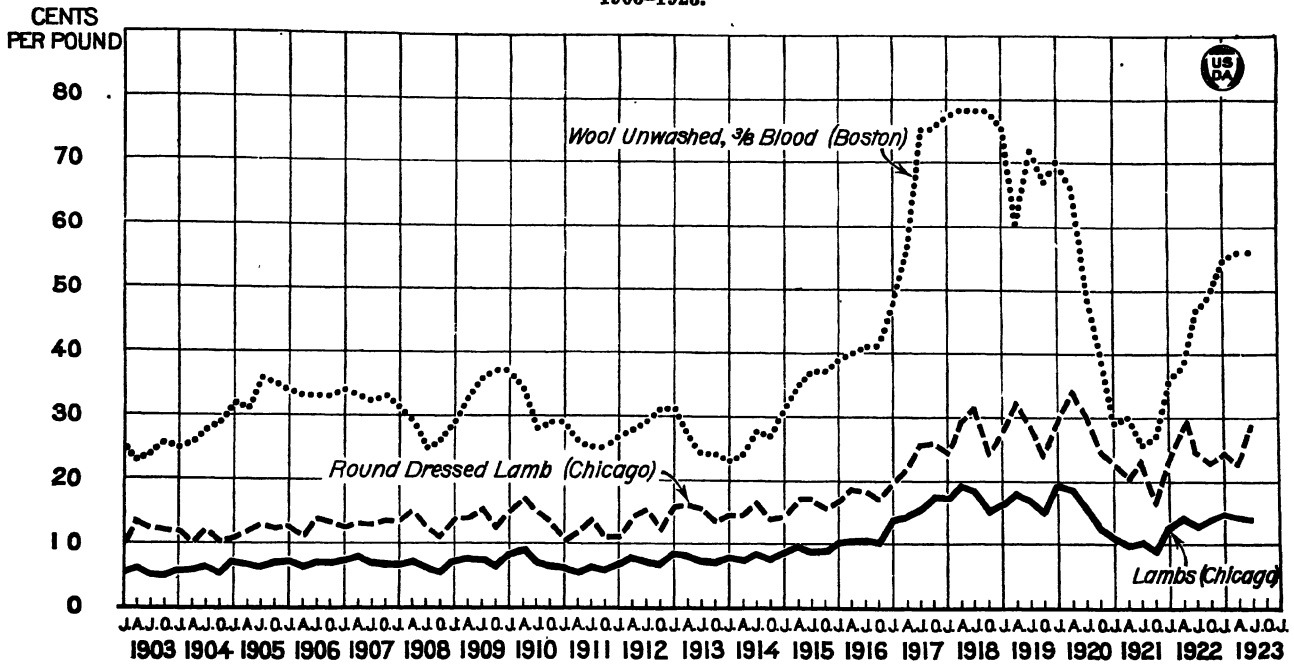


FIG. 59.—The relationship between prices of live and dressed lambs is usually very close and fluctuations in the one are, as a rule, very promptly reflected in the other. Wool prices are subject to less sudden fluctuations than either live or dressed lamb, showing usually rather broad upward and downward swings. These broad movements in wool prices, however, have a rather pronounced effect on the trend of live lamb prices, and fluctuations in live lamb prices are quickly reflected in the dressed-lamb market. It should be noted that the percentage increase in price of wool during the war years was little, if any, greater than the percentage increase in price of lambs.

auction sales. During the World War the Government assumed control of all wool stocks in the country, and after the war considerable quantities were disposed of by the auction sale method. The prevailing system of disposing of wool by private sale makes it difficult for the wool grower to obtain accurate information concerning the market price for a given grade of wool.

Another problem consists in the fact that until quite recently most wool growers sold their product ungraded, the grading being done in the larger wool centers by brokers, whose business it was to sort and grade the wool in accordance with the requirements of the different mills. Under this system the grower who produced relatively clean wool of high quality was frequently penalized because his wool was purchased in a lot with that of other less careful growers.

NUMBER OF FLEECES REQUIRED TO BUY A SUIT OF CLOTHES.

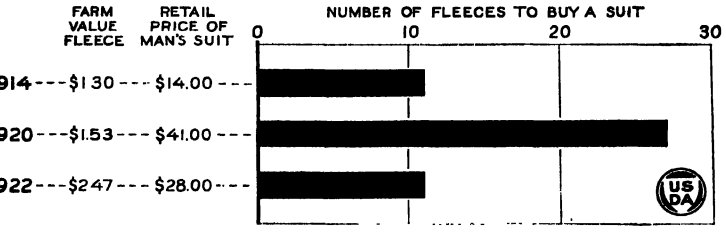


FIG. 60.—In 1914, when wool and clothing were both comparatively cheap, the farmer needed 11 fleeces to exchange for a suit of clothes. In the fall of 1920, when prices of farm commodities were at a low level and when clothes were still high in price, approximately 27 fleeces were needed to purchase the same kind of a suit. By 1922 conditions in the wool and clothing market had become readjusted, so that practically the same number of fleeces were needed to buy a suit of clothes as before the war.

Wool Import Duties.

During the colonial and early national eras there was no tariff on wool. Prior to 1800 comparatively little attention had been given to sheep raising. Between 1800 and 1815 numerous importations of Spanish Merino sheep were made, and during this same period a number of woolen mills were established, which began to create a demand for more wool. Both the raising and the manufacturing of wool were greatly stimulated by the Embargo Act of 1807, the Nonintercourse Act of 1809, and the War of 1812. Shortly after the close of that war, the British began exporting large quantities of woolens to this country, which seriously depressed the woolen industries. The first tariff legislation on wool was enacted in 1816 when a duty of 15 per cent ad valorem was placed on wool, and 25 per cent on woolen goods.

The act of 1824 placed a duty of 15 per cent ad valorem on wool valued at 10 cents a pound or less; 20 per cent on other wools the first year, 25 per cent the second year, and 30 per cent thereafter. In 1828 a combination of specific and ad valorem rates was tried, the rates being higher than in the previous act. In 1854 wool from Canada was admitted free under the reciprocity treaty. In 1857 it was practically put on the free list through a provision that all wool costing

less than 20 cents at the place of exportation was to come in without duty.

The tariff act of 1861 introduced the principle of compensating duties on woolen goods. This compensation was based on the fact that 4 pounds of wool from some of the heaviest shrinking fleeces of South America were needed to make a pound of cloth. As most of the wool imported under this act was admitted on a duty of 3 cents a pound, the compensating duty on woolen cloth was 12 cents.

In 1867 the "blood classification" was introduced. This classification was based on the "blood" or breeds of sheep as follows: Class 1, wool showing any trace of Merino blood and down clothing wools; Class 2, combing wool from "English" breeds; Class 3, native wools, that is, wools from unimproved sheep. An attempt was also made to describe these classes more accurately by designating Class 1 as clothing wools, Class 2 as combing wools, and Class 3 as carpet wools. The act also provided for the naming of the countries from which the wools originated, making virtually a three-fold classification. As improved machinery had made a change in the usage of some of these wools, the terms clothing, combing, and carpet were dropped in 1890.

Between 1867 and 1894 changes were made from time to time in the rate of duty. In 1894 wool was placed on the free list while the duty on woolen goods was considerably reduced.

A duty was again placed on wool in 1897. In this act, a difference was made between unwashed wool and scoured wool, the duty on washed wool being double and on scoured wool treble that on unwashed wool.

The act of 1913 again placed wool on the free list. During the World War period there was a tremendous demand for nearly all kinds of wool. The close of the war was soon followed by a severe depression and a resulting surplus of wool. In the emergency tariff bill of 1921, duties were again enforced on wools of Classes 1 and 2, while Class 3 or carpet wools were admitted free. The present schedule was enacted in 1922. It provides for a duty on "wool not improved by the admixture of Merino or English blood" (carpet wools) of 12, 18, and 24 cents, depending on whether in the grease, washed, or scoured. Such wools may be imported under bond, and if used for the manufacture of rugs, carpets, or other floor coverings are admitted free. The rate on all other wools (used principally in the manufacturing of woolens and worsteds), whether in the grease or scoured, is 31 cents a pound on the basis of clean content (scoured weight). This act also provides for additional ad valorem duties, or for a change of duties, if deemed expedient by the President. In passing this bill, it was believed that making a specific tax on the clean content of the wool would do away with the inequalities due to difference in shrinkage in fleeces from various parts of the world. Provision for the changing of the rates by executive orders was to make possible adjustments that might become necessary because of changed world conditions.

TABLE 2.—*Rates of duty on wool imports under the tariff acts 1789–1922.*

Date of act (and when effective).	Rates of duty.
1789–1816	Free.
April 27, 1816 (July 1, 1816).	First act. 15 per cent ad valorem.
May 22, 1824 (July 1, 1824).	Value of 10 cents a pound or less, 15 per cent; other wool, 20 per cent until June 1, 1825; 25 per cent until June 1, 1826; 30 per cent thereafter.
May 19, 1828 (September 2, 1828).	4 cents a pound plus 40 per cent to June 30, 1829; plus 45 per cent to June 30, 1830; plus 50 per cent thereafter.
July 14, 1832 (March 4, 1833).	Value of 8 cents a pound or less, free; other wool, 4 cents a pound plus 40 per cent.
March 2, 1833 (January 1, 1834).	Duties exceeding 20 per cent to be reduced to 20 per cent by yearly reductions to July 1, 1842.
Sept. 11, 1841 (Oct. 1, 1841).	All rates below 20 per cent to be 20 per cent.
August 30, 1842 (August 31, 1842).	Value of 7 cents a pound or less, 5 per cent; other wool, 3 cents a pound plus 30 per cent.
July 30, 1846 (December 2, 1846).	30 per cent.
March 3, 1857 (July 1, 1857).	Valued at 20 cents a pound or less free. All other, 24 per cent.
March 2, 1861 (April 2, 1861).	Value of 18 cents a pound or less, 5 per cent; value over 18 cents to 24 cents, 3 cents a pound; value over 24 cents, 9 cents a pound.
June 30, 1864 (July 1, 1864).	Value of 12 cents a pound or less, 3 cents a pound; value over 12 cents to 24 cents, 6 cents a pound; value over 24 cents to 32 cents, 10 cents a pound, plus 10 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Scoured wool, three times these rates.
March 2, 1867 (March 3, 1867).	Class 1 (clothing wool), value of 32 cents a pound or less, 10 cents a pound plus 11 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Class 2 (combing wool), value of 32 cents a pound or less, 10 cents a pound plus 11 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Class 3 (carpet wools), value of 12 cents a pound or less, 3 cents a pound; value over 12 cents, 6 cents a pound. Washed, Class 1, twice these rates: scoured, all classes, three times these rates.
June 6, 1872 (August 1, 1872).	All wools, 10 per cent reduction of former rates.
March 3, 1875 (March 4, 1875).	10 per cent reduction of June 6, 1872, repealed.
March 3, 1883 (July 1, 1883).	Class 1, value of 30 cents a pound or less, 10 cents a pound; value over 30 cents, 12 cents a pound. Class 2, value of 30 cents a pound or less, 10 cents a pound; value over 30 cents, 12 cents a pound. Class 3, value of 12 cents a pound or less, 2½ cents a pound; value over 12 cents, 5 cents a pound. Washed, Class 1, twice these rates; scoured, all classes, three times these rates.
October 1, 1890 (October 6, 1890).	Class 1, 11 cents a pound. Class 2, 12 cents a pound. Class 3, value of 13 cents a pound or less, 32 per cent; value over 13 cents, 50 per cent. Washed, Class 1, twice this rate; scoured, Classes 1 and 2, three times these rates.
August 27, 1894 (August 1, 1894).	Free.
July 24, 1897 (July 24, 1897).	Class 1, 11 cents a pound. Class 2, 12 cents a pound. Class 3, value of 12 cents a pound or less, 4 cents a pound; value over 12 cents, 7 cents a pound. Washed, Class 1, twice this rate; scoured, Classes 1 and 2, three times these rates; fit for carding or spinning, Class 3, three times these rates.
August 5, 1909 (August 6, 1909).	Class 1, 11 cents a pound. Class 2, 12 cents a pound. Class 3, value of 12 cents a pound or less, 4 cents a pound; value over 12 cents, 7 cents a pound. Washed, Class 1, twice this rate; scoured, Classes 1 and 2, three times these rates: fit for carding or spinning, Class 3, three times these rates. Foregoing rates are in the minimum tariff; the maximum tariff is 25 per cent higher and is to be in force to March 31, 1910, and thereafter, unless the President by proclamation declares no discrimination by particular countries.
October 3, 1913 (December 1, 1913).	Free.
May 27, 1921 (May 28, 1921).	Clothing wool, unwashed, 15 cents a pound; washed, 30 cents a pound; scoured, 45 cents a pound.
September 21, 1922 (September 22, 1922).	Wool not improved by admixture with Merino or English blood, in the grease, 12 cents a pound; washed, 18 cents a pound; scoured, 24 cents a pound. If used for carpets, rugs, or other floor coverings, duty refunded. Other wool, in the grease or unwashed, 31 cents a pound of clean content; scoured, 31 cents a pound. (All rates subject to change by President after investigation of cost of production, domestic and foreign.)

Outlook for the Industry.

The history of the sheep industry is made up of periods of abounding prosperity followed by periods of extreme depression (figs. 55 and 61). War has always played a prominent part in creating instability. It develops an abnormal demand for wool to which the sheepman always responds to the limit of his resources. Just as

surely, however, as he has profited temporarily by war, he has suffered by its termination. No instance is recorded in recent centuries in which the signing of peace did not find the sheep industry vastly overexpanded. On such an occasion not only are the number of sheep invariably in excess of peace-time needs, but there is always an accumulation in the world of both raw and manufactured wools.

The majority of the world's sheep have in the past been kept on the outskirts of civilization, where they have met frequently with severe competition from cattle. The continuous occupation of the more arable grazing lands for the growing of farm products needed by an increasing population, as these areas have become available through improved transportation facilities, has resulted in large numbers of cattle and sheep being constantly shifted to areas hitherto unoccupied. In such movements the sheep were generally forced to the less accessible areas.

Until very recently new regions were being made available for livestock production at frequent intervals. As the sheep, which were kept almost wholly for wool, could be run very cheaply, and since during prosperous times money with which to finance the industry could easily be secured, there were periods of rapid expansion to the point of overproduction. Such periods of overproduction were almost invariably followed by corresponding periods of depression and liquidation. Again, as much of the business was of an exploitive character and as provision against adverse climatic conditions was seldom made, there were frequent and heavy losses.

The pioneer phase of the industry is rapidly passing and with it, it is believed, much of its consequent instability. There is relatively little unoccupied land in the world to which the industry can turn. In general any future world expansion will be largely at the expense of cattle or wheat production. As wool is necessary to the welfare of the race, and as the present production is hardly more than sufficient for present needs, there is bound to be a growth in the industry as population increases. It is somewhat problematical, however, whether the growth of the sheep industry will keep pace with that of population.

World Trend.

Practically all of the large producing centers, unless it be parts of South Africa and Asia, seem to have reached their maximum number of sheep. In fact, in most of the leading countries, as in Australia, Argentina, and the United States, there has been a notable decline in the number of sheep in recent years. It would seem, considering the world-wide need of wool, that this decline would soon reach its limits, if it has not already done so.

While practically all the available land is now in use, it is probable that ultimately considerable areas of semidesert lands that are now inaccessible to livestock, because of an insufficient water supply, notably parts of South Africa, will be made available to sheep by the provision of wells and reservoirs.

In the past the sheepmen who produced only wool could not meet competition from other agricultural enterprises unless they were located on very cheap land. The sheepmen of to-day, except in the semiarid regions, are no longer solely dependent on wool. Consider-

ing the industry as a whole, lamb production is now a highly important and profitable feature, while there is usually a good market for mature mutton.

In the readjustments that are taking place, the sheep industry of the world seems to be settling down to three general types: (1) The production of fine wool with lambs as a secondary consideration in the arid regions; (2) the production of lambs and wool in the semiarid regions; and (3) the production of lambs, with the wool of secondary importance, in the humid and subhumid regions.

In the arid regions where stock water is scarce, where vegetative conditions are less favorable to other stock, especially cattle, and where transportation facilities are limited, sheep of the fine-wool type, which are kept primarily for the production of wool, will continue to be, for several years at least. the leading agricultural enterprise.

In the semiarid regions of the world where grazing meets with competition from the growing of small grains, but where intensive agriculture is not practicable, sheep will probably continue to be one of three, or possibly more, major enterprises. As most of the sheep will be kept on privately owned land, the operating expenses will be higher than in the arid regions. In order to meet these larger operating costs, most of the sheep will be of the crossbred type and will be kept for the production of both lambs and wool, the latter being less important. World-wide efforts are being made to establish breeds of the crossbred type that will have the necessary characteristics for the production of marketable lambs and uniform fleeces, suitable for the manufacture of worsteds.

In the humid regions where general farming prevails, the majority of the sheep will be kept primarily for the production of lambs. In such regions wool is usually secondary and seldom forms more than about one-third of the total receipts. In regions of intensive agriculture, sheep will occur generally in small flocks and as one of a number of farm enterprises. The dairy cow will continue to be their greatest competitor.

Trend in the United States.

The pioneer phase of the sheep industry, in which sheep are extensively kept on new and comparatively cheap land, is passing. A large percentage of the sheep are now grazed either on owned or leased pastures and in national forests for at least a part of the year. The investment in stock and equipment is so great that wasteful methods will lead to failure. Sheep must now be handled with the utmost care and along the lines of the most scientific thought if the venture is to prove profitable.

Although the future holds promise of a much greater stability for the industry than has been true in the past, the sheepman of the United States will always find competition. He must compete not only with woolgrowers in other parts of the world, but also with other meats for a place in the diet, and, finally, with producers of other livestock for land, labor, and all the intricate machinery of production. He must expect also recurring cycles of prosperity and depression. When prices are low producers, particularly on farms, reduce the size of their flocks or go out of business. This temporarily

POPULATION OF THE UNITED STATES, PRODUCTION AND NET IMPORTS OF WOOL, NUMBER OF SHEEP, 1850–1922; CONSUMPTION OF WOOL AND NUMBER OF SHEEP PER CAPITA, 1870–1920.

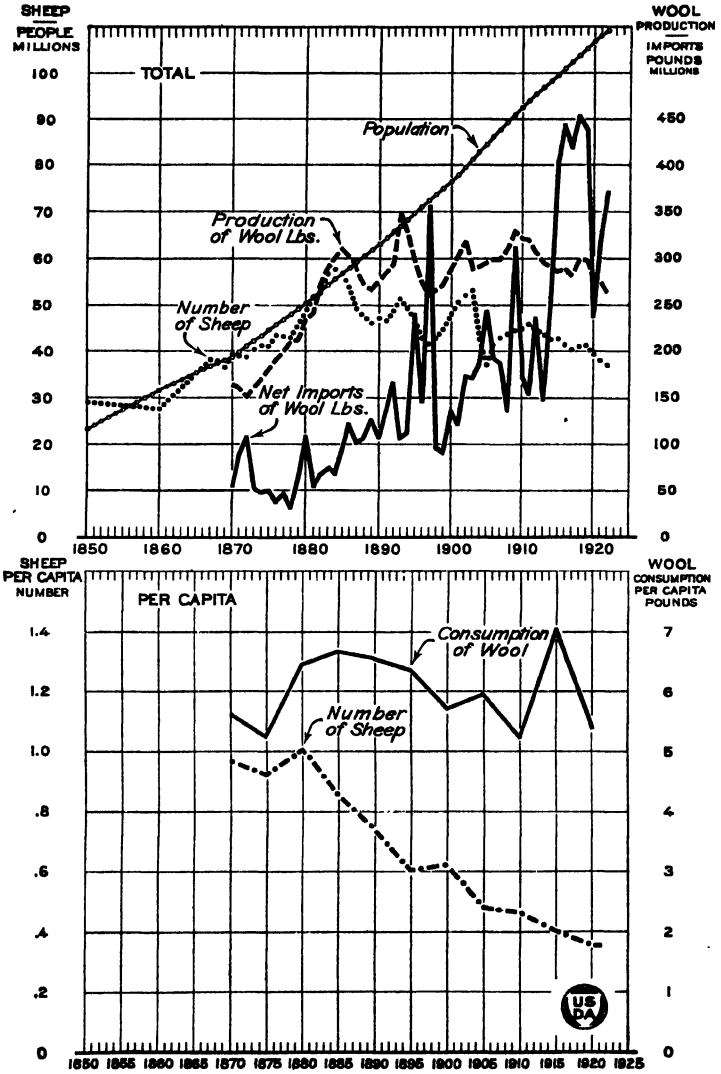


FIG. 61.—The number of sheep in the United States kept pace with the increase in number of people until 1884, which year marked the high point of the industry. The number per capita is now only two-fifths as great as in the early eighties. It is interesting to note the wavelike character of the curve of number of sheep since 1884, the crests being 8 to 10 years apart. It is also noteworthy that despite the decrease in number of sheep the production of wool has remained more or less constant till recently, owing to increasing weight of fleece. The per capita consumption of wool has been maintained by a great increase in imports. The peaks of imports in 1897 and 1909 appear to have been occasioned by anticipation of tariff acts, while that of 1915 to 1919 was owing to war demands.

increases the number of sheep marketed, which further depresses the price. Later, the supply of wool is found to be approaching exhaustion and the supply of mutton is so low that prices rise. As this occurs producers, especially on farms, begin to increase their flocks, causing prices to continue to rise until a little later an increase in the supply of wool and mutton causes prices to fall and the same cycle is repeated.

It would seem that the industry reached a low point during the recent period of financial depression and that it is again building up. As during recent years more than half of the wool used in this country, including carpet wool, has been imported and as the demand for mutton is continuing strong, there is need for a considerable expansion of the industry. This expansion as already noted will probably be characterized by less violent fluctuations than in the past, because unused lands are no longer available. Considerable expansion can come with better utilization of western grazing areas and improved management of farm flocks.

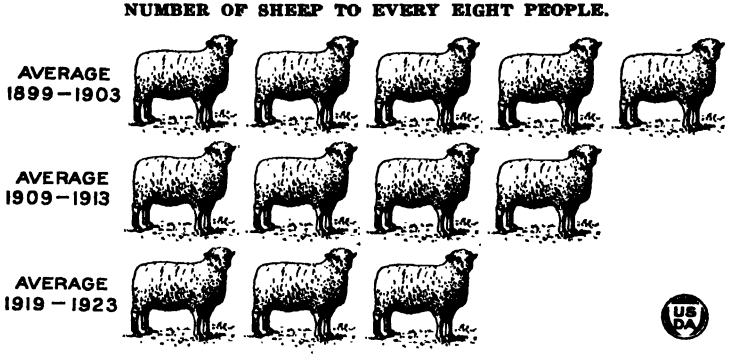


FIG. 62.—The ratio of number of sheep to human population in the United States has been declining since 1884. In the 5-year period, 1899–1903, there were approximately 5 sheep for every 8 people. Ten years later there were only 4. For the period of 1919–1923 there were only 2.8 sheep for every 8 people, or about one-third of a sheep per person.

The Outlook for Sheep in the East.

The eastern and midwestern farmer, with good markets close at hand, can more easily meet the competition of the western range operator, as their costs are approximately equal. In fact, there are many farms where sheep, kept largely on farm by-products, can be more cheaply produced than under some of the western range conditions. The limiting factors in any rapid increase in the number of eastern farm flocks seems to be the general lack of knowledge concerning the care of sheep, especially the prevention of diseases, competition with established and successful farming systems, inadequate fencing, and the fear of dogs. The rapid growth of small farm flocks in the irrigated sections of the West shows that sheep can be advantageously fitted into general farming systems.

In those localities where the greater part of the land is kept in cultivation, the sheep will seldom occupy more than a secondary place. This is especially true in the corn-producing section, where

hog raising and the fattening of livestock will continue for some time as the main livestock enterprise. In localities near large centers of population dairying will predominate. In regions where, because of the broken character of the land, it is desirable to keep fully half or more of the farm in hay and pasture, sheep are finding an important place. This is especially true of those regions that are somewhat remote from centers of dense population. Under such conditions sheep will generally be associated with either dairy or beef cattle and will probably be one of the major enterprises, not infrequently the leading one. While such sheep will generally be of the mutton type, there are regions, such as the upper Ohio Valley, where sheep for some time to come will be kept primarily for the production of wool.

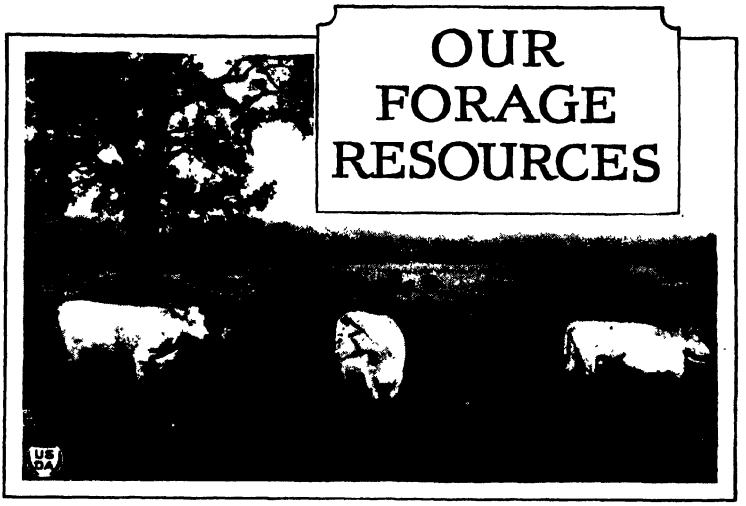
There is room also for considerable expansion of the industry in the South. However, any growth will probably be slow, as this region is especially adapted to the growing of tilled crops. The lack of adequate pastures and the difficulty of handling parasitic diseases are also severe handicaps at the present time.

The Outlook for the Industry in the West.

In the West expansion will generally be on the basis of much higher operating expenses than formerly. The sheepmen, however, are already meeting these conditions. In the first place a large percentage of the operators are keeping flocks of the crossbred type. In such flocks the lambs furnish approximately 55 per cent of the revenue, as against 45 per cent for wool. They are also giving their sheep better care, and as a result are generally securing better lamb crops as well as heavier fleeces. Better management of the sheep and of the range is also making it possible to carry additional stock on the same extent of range.

One serious handicap in the expansion of the business is that of securing adequate range. Many operators are finding it difficult to secure sufficient range for their present needs. Others who are operating wholly on the public domain are faced with the uncertainty as to how much longer these lands, some of which are deteriorating, will be available to them.

The rapid deterioration of the remaining public domain, because of constant unrestricted grazing, is given much concern. Nearly all livestock producers recognize the need of some stabilized policy of protection, in order that further destruction of these areas may be prevented. Various plans for the better control and utilization of the remaining public domain, not suitable for farming purposes, have been suggested. While many prefer private ownership or long-term leasing, the plan that is being given most consideration is that of creating grazing districts and alloting stock among resident users under a permit system somewhat similar to that now in the national forests. Under proper systems of grazing the carrying capacity of these areas can be increased greatly. An adequate and settled land policy would make it possible to place the Western sheep business on a much more stable basis than has previously existed, and would probably result in a considerable increase in the number of sheep.



OUR FORAGE RESOURCES

By C. V. Piper, H. N. Vinall, R. A. Oakley, and Lyman Carrier, *Bureau of Plant Industry;* O. E. Baker, J. S. Cotton, O. A. Juve, and N. P. Bradshaw, *Bureau of Agricultural Economics;* E. W. Sheets and C. D. Marsh, *Bureau of Animal Industry;* W. C. Barnes, *Forest Service;* and W. B. Bell, *Bureau of Biological Survey.*[1]

SEVEN-TENTHS of the 365,000,000 acres of land in the United States occupied by crops harvested in the census year 1919, or approximately 257,000,000 acres, were used to produce forage, that is, concentrates and roughage for livestock.[2] About two-tenths, or 76,000,000 acres, produced food for human consumption; and nearly one-tenth, or 32,000,000 acres, was used for other purposes, principally to produce cotton fiber, tobacco, and flax. In addition, our livestock consumed the product of about 60,000,000 acres of humid improved pasture, probably of 171,000,000 acres of humid unimproved grassland pasture, over half of which was in farms, and of about 237,000,000 acres of forest and cut-over pasture land in farms or under other private ownership and in our national forests, besides that of perhaps 587,000,000 acres of arid or semiarid grazing land in the West.[3]

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[1] A. J. Pieters and W. J. Morse, Bureau of Plant Industry; H. W. Hawthorne and W. J. Spillman, Bureau of Agricultural Economics; J. B. Bain and E. C. Semple, Bureau of Animal Industry, furnished valuable data and criticisms.

[2] In the broad consideration here given the relations of forage to livestock production, and indeed to agriculture as a whole, the word "forage" is used in its wide significance; that is, all vegetable nutriment, fresh or cured, consumed by domestic animals, such as pasturage, browse, mast, green feed, hay, straw, silage, and grain. The term "feed" includes all plant and animal products consumed by livestock, and "food" refers to the nutriment of man.

[3] These acreages of the several classes of pasture are estimates based on the replies made to the questions on "Uses of land," contained in the 1920 census schedule; on various Federal and State reports; and on correspondence with officials and other well-informed persons in the several States. Special acknowledgment is due W. R. Chapline and W. N. Sparhawk, of the Forest Service, and A. E. Aldous, of the Land Classification Board, United States Geological Survey, for assistance and valuable criticism. Additional data are contained in Table 22. These estimates and others that follow are not final. If they serve to call attention to the importance of forage, especially our pastures, and stimulate students in the various States to study the problems in more detail, the writers will be fully satisfied.

It seems safe to say that livestock [4] consume about three-fourths of the product of the improved land and practically all the product of the unimproved pastures and grazing lands within and without farms (fig. 1).

In this connection it should be noted that the "hay and forage" [5] crops of the census occupied in 1919 only 19 per cent of all improved

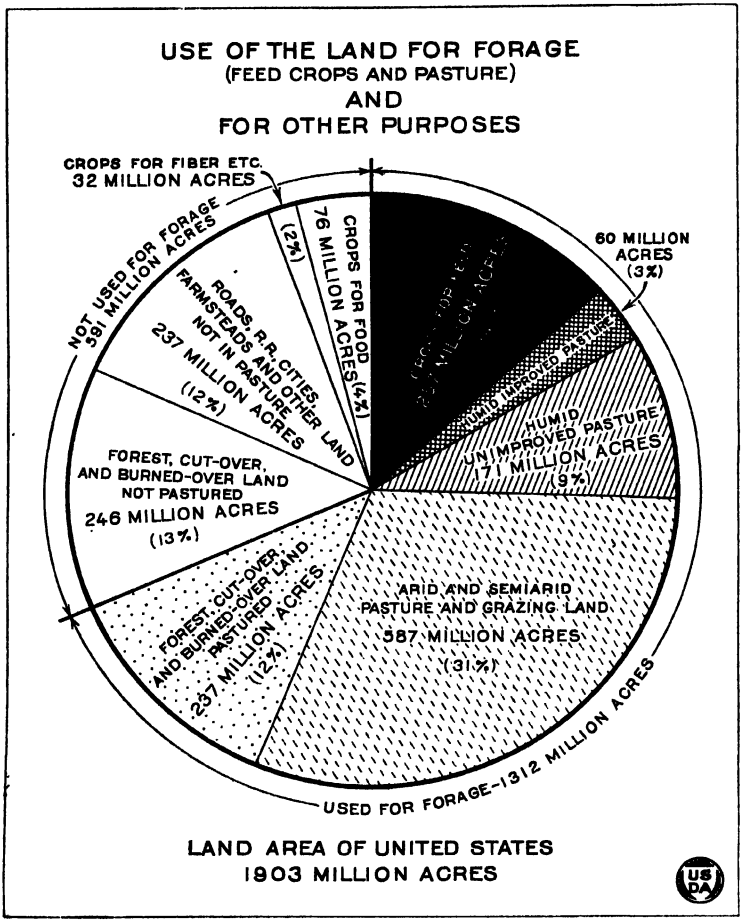


FIG. 1.—About 69 per cent of the total land area of the United States was used in 1919 for the production of forage. Some of this, for instance the forest land that was pastured, contributed other products than forage. The above statement merely indicates the immensity of the land area required for the support of the Nation's livestock. The 257,000,000 acres producing crops for feed yielded slightly more sustenance than the 1,055,000 acres used for pasture. More than half of this pasture is arid western range and nearly a fourth more is forest and cut-over land which, in general, has a low carrying capacity.

[4] Livestock and domestic animals as hereinafter referred to include horses, mules, cattle, sheep, goats, hogs, and poultry. All are purely herbivorous except hogs and poultry, which are omnivorous.

[5] Forage crops properly include only those plants grown primarily for feed, and of which animals consume all or most of the harvested herbage or roots or both. Strictly speaking, the term crop applies only to products that are harvested by man, and therefore does not include pasturage; but it is extended in common use to include planted crops like corn, oats, soybeans, etc., even if they are grazed down by animals.

land and about 27 per cent of all cropped land. The census classification does not include many crops used mostly for forage. It excludes corn (except fodder), for instance, the most important of all crops used for forage, and thus presents a very incomplete picture of our forage resources, when the word "forage" is used in its broad significance.

Proportions of the Total Crop Acreage Used to Produce Forage, Food, and Other Products.

The proportions of the total crop acreage used to produce the different classes of crop products, herein described, are based on the percentage of those products consumed as forage, as food, as fiber, and in other ways. These percentages as well as the actual acreage vary widely in different parts of the United States. (Compare figs. 2, 3, 4, and 5.) In the Cotton Belt about 53 per cent of the crop land in 1919 was devoted to the production of feed for livestock, mostly corn, cowpeas, velvet beans, and peanuts, about 37 per cent to cotton,[6] tobacco, and other crops not used as feed for livestock or food for man, except incidentally, and less than 10 per cent to produce food consumed directly by man. Corn is used for both forage and food in this region, the estimated consumption by livestock being 90 per cent of the crop, and by the human population 10 per cent.

In the corn and winter wheat region, which lies between the Cotton Belt on the south and the Corn Belt to the north, nearly three-fourths of the crop land in 1919 produced forage for livestock and the remaining fourth food, except for 2 per cent of the crop area that was devoted to tobacco. In the Corn Belt, where all the hay and nearly all the corn and oats are fed to livestock, about 84 per cent of the crop land produced forage for farm animals and 16 per cent food for man, wheat being the most important food crop. Only one-fifth of 1 per cent of the crop acreage was used for other than feed or food crops.

In the hay and dairying regions to the north and east hay is the dominant crop, occupying about 33 per cent of the crop land, while corn for fodder and silage occupies nearly 6 per cent more. The acreage used for feed of oats, of corn (harvested for grain), of barley, and of other crops, including a pro rata acreage of the wheat based on the percentage of mill feed, totals over 30 per cent of the crop land. About 30 per cent more is devoted to crops used for human food, principally wheat (for flour), fruit, rye, potatoes, and vegetables. Only 1 per cent is used for other crops than those grown for feed or food. This is mostly flax, grown in the eastern Dakotas and in Minnesota and used to make linseed oil.

In the humid eastern half of the United States considered as a whole, one-fourth of the crop land is used to grow corn for grain, another fourth to produce hay, fodder, and silage, and a fifth is devoted to oats and other crops used as feed. The remaining 30 per cent produces most of the food used directly for human consumption in the United States, and over half of the cotton fiber of the world.

[6] Forty-one per cent of the crop land in the Cotton Belt was in cotton, but after the value of the seed, most of which is used for feed and food, is allowed for, the acreage allotted to the production of cotton fiber becomes only 35 per cent.

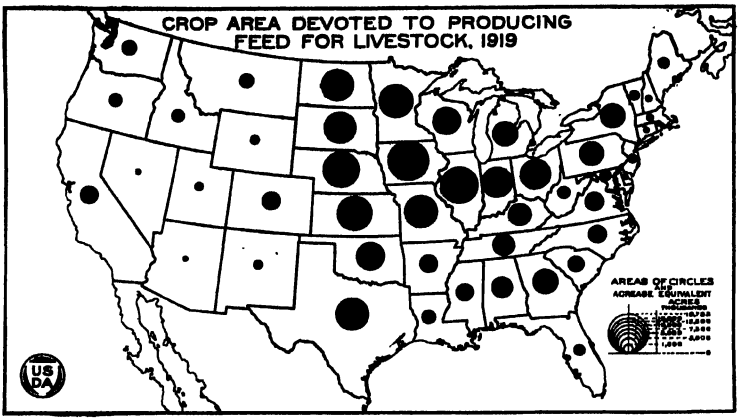


FIG. 2.—A very large proportion of our harvested forage is produced in the eastern or humid part of the United States. In this eastern half crops are much more important than pasture, while in the western half the reverse is true. The Corn Belt and the Great Plains States, it will be noted, are the principal regions of feed production. Compare this map with Figure 3, also with Figure 10.

The western half of the United States is largely semiarid or arid, and is consequently mostly pasture or range land. Only about 6 per cent of the land is in crops, but over three-fifths of this is devoted to producing feed for livestock. It will be noted, however, that this is a smaller proportion of the crop land than in the East (fig. 3), owing largely to the fact that wheat is one of the best semiarid crops. Wheat occupied nearly a third of the harvested crop land in the western half of the United States in 1919. Fruit, also, is relatively more important in the West than in the East.

When the different States are considered individually, it is found that in all but one State 50 per cent or more of the crop acreage is

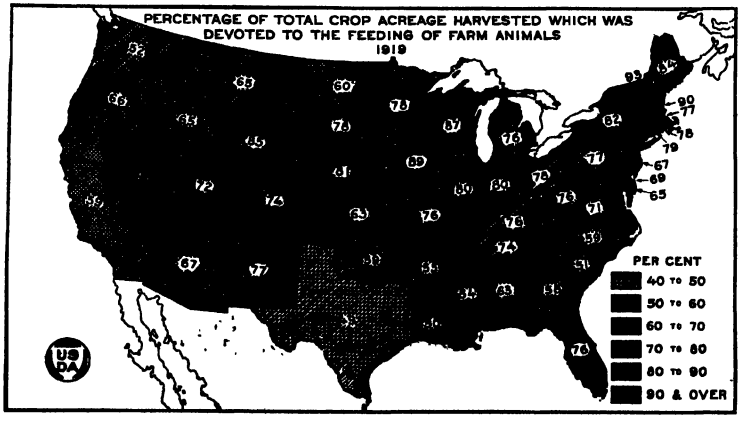


FIG. 3.—About seven-tenths of the land in harvested crops in 1919 was used to produce forage for livestock. In only one State did the proportion fall below 50 per cent, and in six it was 85 per cent or more. The total quantity of forage thus produced was sufficient to feed all livestock only a little more than half the year. Pasture supplies the remainder of the forage needed by our farm animals.

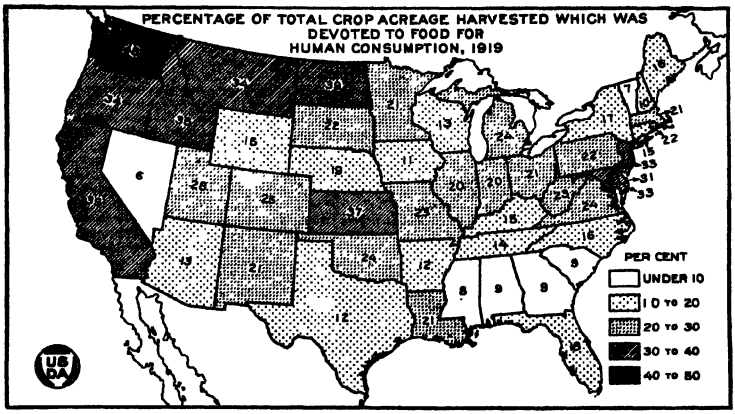


FIG. 4.—Only a little over one-fifth of the land in harvested crops in 1919 was used to produce breadstuffs, fruit, vegetables, and other human food. The percentage of crop land devoted to the production of foodstuffs was highest in the wheat and fruit-growing areas and lowest in Nevada and Vermont and in the Cotton Belt.

used to produce feed for farm animals (fig. 3). In six States 85 per cent or more of the harvested produce is used as forage. These percentages relate only to harvested crops and do not include pasturage.

Relative Values of Forage, Food, and Other Crop Products.

Although it required about seven-tenths of the total crop acreage to produce our harvested forage, this forage constituted only a little over half of the farm value of all crops in 1919. (Fig. 6.) The average value of the crops used for forage in that year was $30.87 per acre, as compared with $60.33 for the crops used as food (wheat, fruits, vegetables, etc.), and $83.82 for the fiber and other crops. Though in

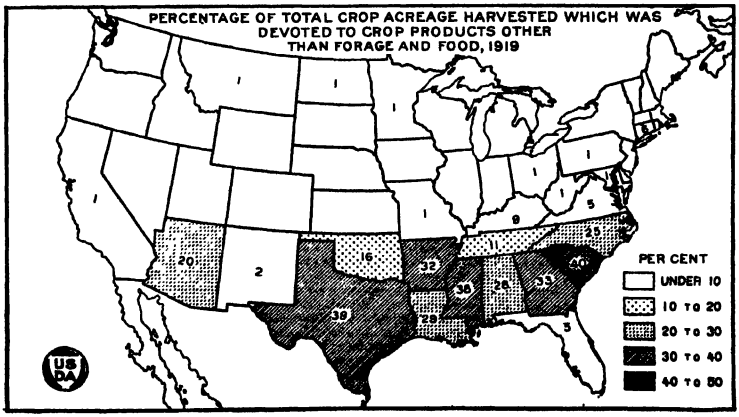


FIG. 5.—The percentage of the crop land devoted to the production of plant products other than feed for livestock and human food is almost negligible in the States north of the Cotton Belt. In 1919 only 9 per cent of all the cropped land in the United States was devoted to the production of such products.

all but one State more than half the crop land was used to produce forage for livestock, in only 24 States did the value of this forage equal half the farm value of all crop products.

In the Cotton Belt the value of the forage produced by crops constituted only about 25 per cent of the value of all crops, whereas it required 53 per cent of the acreage for its production. In the corn and winter-wheat region the forage produced by crops constituted about 40 per cent of the value of all crops, and in the Corn Belt about 80 per cent. In the hay and dairying region the value of the forage was nearly 60 per cent of the value of all crops; and in the western regions, where pasturage is more important than crops, the harvested forage constituted about 45 per cent of the value of all crops.

The farm value of the crops and crop products used for forage in the United States in 1919 was nearly $8,000,000,000, whereas the value of the crops and crop products used for food was about $4,650,000,000, and of the crops and crop products used for fiber and other

FARM VALUE OF THE CROP PRODUCTS USED AS FEED FOR LIVESTOCK, HUMAN FOOD, FIBER, ETC., AND ACREAGE REQUIRED TO GROW THESE PRODUCTS, UNITED STATES, 1919.

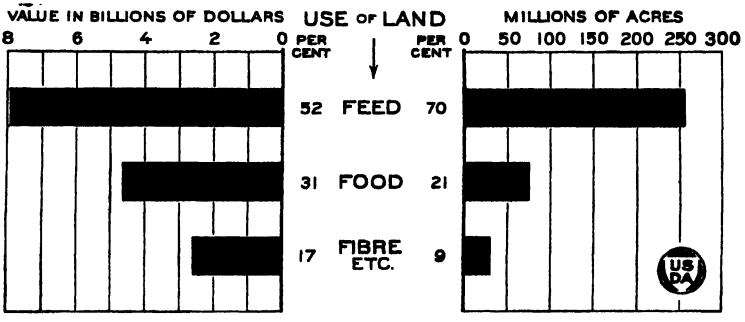


FIG. 6.—The farm value of the crops and crop products used as feed for livestock is less than twice that of the crops and crop products used for human food, although the former requires over three times as much crop land for its production as the latter. To produce the fiber and other nonedible crop products required less than one-seventh as much land as that devoted to producing feed for livestock, but these fiber and other crop products had a farm value one-third that of the feed.

purposes about $2,620,000,000 (fig. 6). The census statistics for 1909 indicated that the total value of forage was approximately the same as the farm value of all animals sold for slaughter or slaughtered on the farm and of all livestock products, notably milk, wool, and mohair, but excluding the value of horse and mule labor.

The Development of Forage Production.

The importance of forage-producing crops in the agriculture of a nation depends not only upon climatic and soil conditions, but also upon the stage of agricultural development. As in the industrial evolution of other peoples the hunting stage has generally been followed by a pastoral husbandry, this in turn by grain growing, and only in a late stage of development by the cultivation of forage-producing crops; so in the history of American agriculture we find the pioneer depending in large measure on game for a livelihood supplemented by the products of a few cattle and sheep grazed in

the woods or on the prairies, then, with the coming of the canals and railroads, grain production became profitable, and, finally, grain farming was followed by systems of general farming in which crops that produced forage were dominant.

As people become more numerous and land becomes scarcer it must be made to produce more per acre. Because crop land usually produces more forage to the acre than does pasture land, the normal trend with the growth of population is to increase crop land at the expense of pasture. During the past 40 years pasture land in the United States has decreased about 3,000,000 acres per year on the average, while crop land has increased about 4,500,000 acres per year. In other words, two-thirds of this increase in crop land has come from pasture and one-third from forest. However, of the 46,000,000 acres increase of crop land between 1909 and 1919 apparently less than 5,000,000 acres came from forest.

The greatest per capita acreage of pasture and range land in the United States (acres divided by total population) was reached before 1880, the greatest per capita number of livestock (animal units) about 1892, and the greatest per capita acreage of crops about 1900 (fig. 7). The human population has increased at the rate of 8,000,000 to 16,000,000 people each decade since 1850, whereas the animal population has increased but little since 1894 and there has been an actual decrease in the numbers of beef cattle and sheep. This divergence in the trends of human and animal population is shown in Figure 8.

The final stage of this agricultural evolution can be seen in Japan, China, and India, where there is almost no pasture, livestock occupy a very minor place in the systems of farming, and the forage consists largely of crop residues and wastes. However, in portions of Great Britain and Ireland, in northern France, and in much of Germany, where population is much denser than in the United States, forage crops are almost, if not fully, as important in relation to other crops as in the United States.

The superiority of a general system of farming based on forage crops and livestock over specialized systems, such as wheat farming, cotton farming, or fruit farming, is being increasingly recognized. No artificial fertilizer can fully replace animal manures in maintaining crop yields. Moreover, many of the forage crops are legumes which in decaying add nitrogen to the soil (fig. 9). The grasses, too, as their roots decay, supply nutriment for bacteria that gather nitrogen from the air and add it to the soil. Their extensive root systems, the fine threads of which ramify throughout the soil, leave humus upon their decay and tend to keep the soil in excellent tilth. In brief, forage crops and livestock, under present conditions, constitute the best basis of a permanent agriculture.

A general system of farming tends to maintain not only the productivity of the soil but also economic stability. This fact is well illustrated by the present situation in the wheat-producing areas of the Great Plains. This region was one of the last to be developed agriculturally in the United States, and the western portion particularly is only now passing from the pastoral into the wheat farming stage of development. Owing to low prices for both wheat and beef the present distress in this region is acute.

TREND IN PER CAPITA PRODUCTION OF THE NINE PRINCIPAL CROPS IN THE UNITED STATES, AND OF NUMBER OF UNITS OF LIVESTOCK, 1850–1923; AND TREND IN PER CAPITA ACREAGE OF PASTURE, 1880–1920.

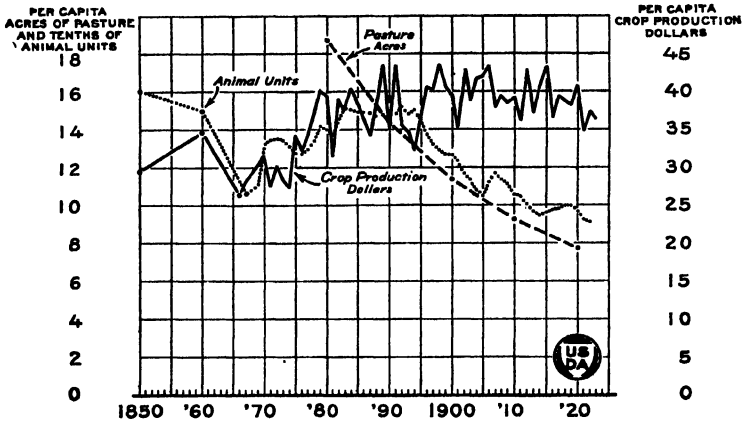


FIG. 7.—The per capita production of the nine principal crops (combined on the basis of the average price during the 34 years, 1889–1922) shows an upward trend from the Civil War years to about 1890, then remained more or less constant till 1915; and has since declined slightly. In order to maintain this per capita production of the crops as population increased forests have been cleared and pasture land broken for crops. In recent years most of the increase of crop land has been at the expense of pasture (see article on Land Utilization). Owing to this decrease in actual area of pasture while population was increasing, the decline in per capita acreage of pasture has been very rapid. The number of animal units per person was almost as high in 1892 as in 1850, but has since decreased rapidly, being affected, apparently, more by the decline in per capita pasture acreage than by the fairly well maintained per capita crop acreage.

TREND IN POPULATION COMPARED WITH TREND IN NUMBER OF CATTLE, SWINE, AND SHEEP, 1850–1922.

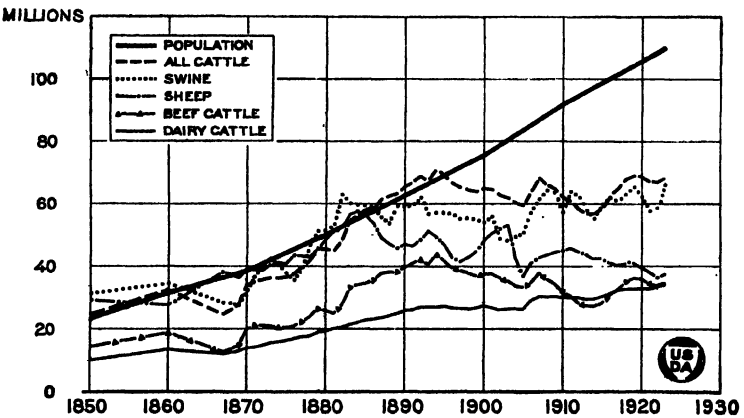
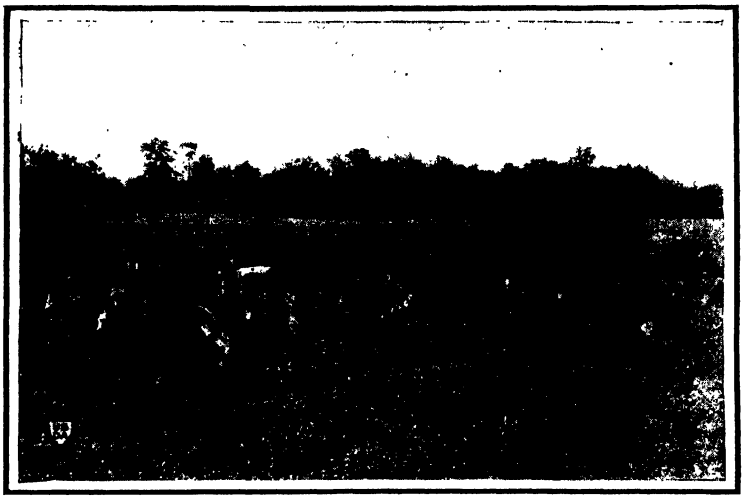


FIG. 8.—The marked divergence in the trends of human and animal population indicates a gradual change in our national diet. The numerical relation between people and livestock continued much the same from 1850 to the decade 1884–1893. The number of sheep show a downward trend since 1884. The number of swine have remained about stationary since the eighties. The number of beef cattle have decreased 22 per cent since 1894, whereas the human population has increased 62 per cent. Dairy cattle are the only kind of livestock (other than poultry) to show a consistent increase in numbers throughout the entire period represented on the chart. From 1890 to 1920 the number of dairy cattle, however, increased only 27 per cent, as compared with 68 per cent increase in population.

The agricultural development of the northern Great Plains in particular is delayed in a measure by the lack of a forage crop adapted to the cool semiarid conditions. In the southern Great Plains the introduction of the sorghums has made possible the utilization of millions of acres of land for crops that would otherwise have remained in less productive pasture; but in much of the northern plains the growing season is too short for sorghum, and only dwarf early varieties of corn will mature. The lack of satisfactory forage crops is one of the reasons the present agricultural depression is more severe in the northern plains than elsewhere.

The trend in American agriculture during the past 30 years has been toward the increase of forage-producing crops principally at the expense of pasture, and this trend appears likely to continue. Land is becoming more expensive; and unless the pastures are im-



BEEF CATTLE ON CLOVER PASTURE.

FIG. 9.—Red clover is noted as a "soil builder." Plowing under the entire crop secures the greatest possible manurial value, but as a rule it is more economical to graze the clover and plow under the residue. Most of the clover is grown mixed with timothy.

proved and made to yield larger returns, they will slowly give place to crops. But after the production of forage crops has been developed to the utmost, there will remain vast areas of arid or rough land in the West suitable only for grazing, probably 600,000,000 acres in all, or nearly one-third of the land area of the United States. These lands are dedicated by nature to the production of beef cattle and sheep. They provide cheap forage and give assurance that however great the population may become, the American people will never be wholly without meat. In the humid eastern portion of the United States also, there is much land better suited to pasture than to crops. Many of these pastures, however, being located in regions of denser population and more intensive agricultural production,

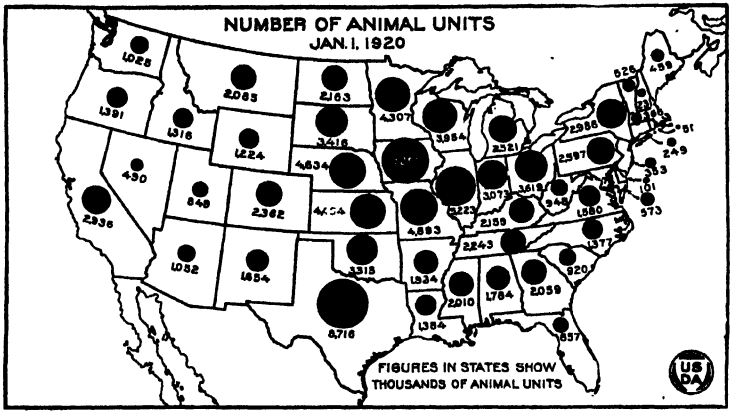


FIG. 10.—Nearly half the animal units in the United States are in the Corn Belt and Great Plains States. Yet even the eastern Corn Belt does not produce enough livestock to supply its needs for meat and other animal products. (See fig. 11.) It will be noted that livestock are most abundant in the regions of heavy crop production (see fig. 2) rather than in the West, where arid grazing land predominates.

will be used mostly for dairy cattle and horses, and, to a lesser extent, for hogs and poultry.

Relations between Livestock and Human Population.

The numerical relations between people and domestic animals are complex and the subject has been but little explored.[7] The number

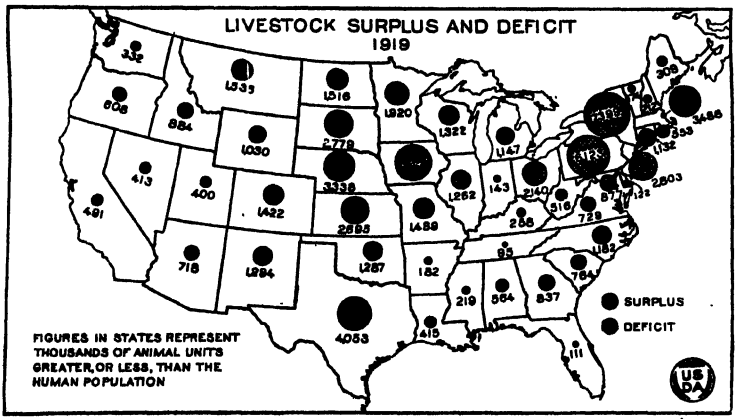


FIG. 11.—In the United States there was approximately one animal unit for each person in 1919. The above map shows for each State the number of animal units in excess or in deficiency of a number equal to the national proportion. Illinois had a deficiency because of the large industrial population of Chicago and vicinity, while Arkansas, Mississippi, and Vermont show a surplus chiefly because these States are without any large cities. The Great Plains and the western part of the Corn Belt produce most of the surplus meat which goes to support the manufacturing centers in the East (compare with fig. 10).

[7] Exception to this general statement should be noted in the case of the study by E. W. Shanahan, entitled "Animal Foodstuffs," London, 1920.

of animals in any country or in any State is the result of constant adjustment to economic conditions; some areas produce a surplus for export, others are dependent on imports.

If all the domestic animals in the United States are reduced to hypothetical "animal units"[8] equal to adult cattle in feed requirements, there were in the United States January 1, 1920, nearly 106,000,000 animal units, or almost exactly one such animal unit to each person. The average number of animals for 1919 was about 4 per cent greater than on the above date, or 110,000,000 animal units. In the different States the proportions vary widely, some States having a surplus over the national average, others a deficiency. In States where there is a very large urban population in proportion to rural population, the number of animals per capita tends to be reduced correspondingly. These variations are shown in Table 1 and in Figures 10 and 11.

TABLE 1.—*Human population and livestock (animal units). January 1, 1920.*

Division and State.	Human population.	Livestock (animal units).	Ratio 1 to—	Surplus of animal units.	Deficiency of animal units.
	Number.	*Number.*		*Number.*	*Number.*
United States	105,711,000	105,688,000	1.0		
Geographic divisions:					
New England	7,401,000	1,882,000	.25		5,519,000
Middle Atlantic	22,261,000	5,936,000	.27		16,325,000
East North Central	21,476,000	18,390,000	.86		3,086,000
West North Central	12,544,000	31,128,000	2.48	18,584,000	
South Atlantic	13,990,000	8,422,000	.60		5,568,000
East South Central	8,893,000	8,197,000	.92		696,000
West South Central	10,242,000	15,350,000	1.50	5,108,000	
Mountain	3,336,000	11,032,000	3.31	7,696,000	
Pacific	5,567,000	5,352,000	.96		215,000
New England:					
Maine	768,000	459,000	.60		309,000
New Hampshire	443,000	231,000	.52		212,000
Vermont	352,000	526,000	1.49	174,000	
Massachusetts	3,852,000	366,000	.10		3,486,000
Rhode Island	604,000	51,000	.08		553,000
Connecticut	1,381,000	249,000	.18		1,132,000
Middle Atlantic:					
New York	10,385,000	2,986,000	.29		7,399,000
New Jersey	3,156,000	353,000	.11		2,803,000
Pennsylvania	8,720,000	2,597,000	.30		6,123,000
East North Central:					
Ohio	5,759,000	3,619,000	.63		2,140,000
Indiana	2,930,000	3,073,000	1.05	143,000	
Illinois	6,485,000	5,223,000	.81		1,262,000
Michigan	3,668,000	2,521,000	.69		1,147,000
Wisconsin	2,632,000	3,954,000	1.50	1,322,000	
West North Central:					
Minnesota	2,387,000	4,307,000	1.80	1,920,000	
Iowa	2,404,000	7,251,000	3.02	4,847,000	
Missouri	3,404,000	4,893,000	1.44	1,489,000	
North Dakota	647,000	2,163,000	3.34	1,516,000	
South Dakota	637,000	3,416,000	5.36	2,779,000	
Nebraska	1,296,000	4,634,000	3.58	3,338,000	
Kansas	1,769,000	4,464,000	2.52	2,695,000	
South Atlantic:					
Delaware	223,000	101,000	.45		122,000
Maryland	1,450,000	573,000	.40		877,000
District of Columbia	438,000	7,000	.02		431,000
Virginia	2,309,000	1,580,000	.68		729,000
West Virginia	1,464,000	948,000	.65		516,000
North Carolina	2,559,000	1,377,000	.54		1,182,000

[8] The "animal unit" is employed to reduce the different kinds of livestock to one class, in so far as their relation to the consumption of feed is concerned. It is roughly estimated that the amount of forage required to maintain 1 adult cow one year would be sufficient to maintain for the same period 1 horse, mule, or steer, 5 hogs, 7 sheep or goats, or 100 poultry. Colts, calves, pigs, and lambs are estimated to require one-half as much feed as the adult animal. These ratios have been used in farm management surveys for many years, and have proved fairly satisfctory.

TABLE 1.—*Human population and livestock (animal units), January 1, 1920*—Continued.

Division and State.	Human population.	Livestock (animal units).	Ratio 1 to—	Surplus of animal units.	Deficiency of animal units.
South Atlantic—Continued.	*Number.*	*Number.*		*Number.*	*Number.*
South Carolina	1,684,000	920,000	.55		764,000
Georgia	2,896,000	2,059,000	.71		837,000
Florida	968,000	857,000	.88		111,000
East South Central:					
Kentucky	2,417,000	2,159,000	.89		258,000
Tennessee	2,338,000	2,243,000	.96		95,000
Alabama	2,348,000	1,784,000	.76		564,000
Mississippi	1,791,000	2,010,000	1.12	219,000	
West South Central:					
Arkansas	1,752,000	1,934,000	1.10	182,000	
Louisiana	1,799,000	1,384,000	.77		415,000
Oklahoma	2,028,000	3,315,000	1.63	1,287,000	
Texas	4,663,000	8,716,000	1.87	4,053,000	
Mountain:					
Montana	549,000	2,085,000	3.80	1,536,000	
Idaho	432,000	1,316,000	3.05	884,000	
Wyoming	194,000	1,224,000	6.31	1,030,000	
Colorado	940,000	2,362,000	2.51	1,422,000	
New Mexico	360,000	1,654,000	4.59	1,294,000	
Arizona	334,000	1,052,000	3.15	718,000	
Utah	449,000	849,000	1.89	400,000	
Nevada	77,000	490,000	6.36	413,000	
Pacific:					
Washington	1,357,000	1,025,000	.76		332,000
Oregon	783,000	1,391,000	1.78	608,000	
California	3,427,000	2,936,000	.86		491,000

NOTE.—Due to rounding the figures the different items do not in every case add to the total, but the totals are correct.

In Canada the ratio of animal units to population is about 1.4 to 1. In Australia and New Zealand the ratios are 5.3 to 1, and 5.2 to 1, respectively. In these countries low death rates, absence of illiteracy, large per capita wealth and similar criteria indicate a high degree of widespread well-being, but the productive wealth is very largely agricultural, the percentage of income from manufacturing being much smaller than in the United States and Canada. Exports of agricultural products from Australia and New Zealand are relatively larger and manufactured products are received in exchange. Under these conditions of large pastoral area and small manufacturing development, it is to be expected that the number of animal units per capita of the population would be several times higher than in the United States and Canada. Canada, however, exports a much larger proportion of her agricultural products than the United States, roughly 30 per cent at present as compared with about 15 per cent for the United States.

In western European countries before the World War the number of farm animals per person was less than in the United States, except in Denmark where there were relatively more animals than in the United States (Table 2). In general, after allowing for imports of meat and dairy products, there seems to have been a consumption of animal products equivalent to about two-thirds of an animal unit for each person. In all of western Europe before the war, there were apparently only a slighly greater number of animal units than in the United States.

TABLE 2.—*Ratios of human population to animal population in western Europe.*

Country.	Population, 1911.	Livestock (animal units) average, 1911–1913.	Ratio of persons to animal units, 1 to—
	Number.	*Number.*	
Germany	64,925,000	31,182,000	0.48
Belgium	7,424,000	2,419,000	.33
France	39,602,000	22,156,000	.56
Great Britain and Ireland	45,221,000	19,062,000	.42
Spain	19,951,000	7,818,000	.39
Denmark	2,757,000	3,295,000	1.20
Netherlands	5,858,000	2,811,000	.48

Relation of Different Classes of Livestock to Human Population.

Ratio of dairy cattle to population.—Dairy cattle, from the standpoint of value, are now the most important class of livestock on American farms. If we consider an average family to be five people, there is one milk cow to-day for each family in the United States. This ratio, however, varies considerably in different regions (fig. 12). In the Cotton Belt there is 1 dairy cow to 5.8 people, in the corn and winter wheat region 1 to 6.3 people, in the Corn Belt 1 to 3.4 people, and in the hay and dairying region 1 to 5.6 people. (See Table 3.) This last region, however, contains nearly two-fifths of the population and dairy cows of the nation. In the western half of the United States there is 1 dairy cow for every 5 people.

TABLE 3.—*Ratios of dairy cattle to human population in the different agricultural regions of the United States, January 1, 1920.*

Region.	Population.	Dairy cattle (all ages).	Dairy cows 2 years old and over.	People per head of—	
				Dairy cattle.	Dairy cows.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*
United States	105,710,620	31,364,459	19,675,297	3.4	5.4
Subtropical coast	2,682,450	247,987	151,914	10.8	17.7
Cotton belt	18,176,211	5,536,022	3,117,859	3.3	5.8
Corn and winter wheat belt	21,097,430	5,147,168	3,347,233	4.1	6.3
Corn Belt	12,263,229	5,773,957	3,612,164	2.1	3.4
Hay and dairying belt	41,032,968	11,291,651	7,364,735	3.6	5.6
Great Plains	2,002,822	1,335,501	809,494	2.0	3.3
Rocky Mountain	1,313,228	378,513	229,699	3.5	5.7
Arid interior plateaus	1,556,132	475,279	272,391	3.3	5.7
South Pacific	2,826,599	610,465	395,925	4.6	7.1
North Pacific	2,099,551	567,916	373,883	3.7	5.6

In European countries the ratios of dairy cows[9] to people is much the same as in the United States. Previous to the war this ratio in

[9] In many European countries dual-purpose cattle are very common and the statistics often do not distinguish carefully between dairy and beef animals. The ratios given are, therefore, not strictly comparable with those for the United States, but it is believed they are satisfactory for a broad comparison of this kind.

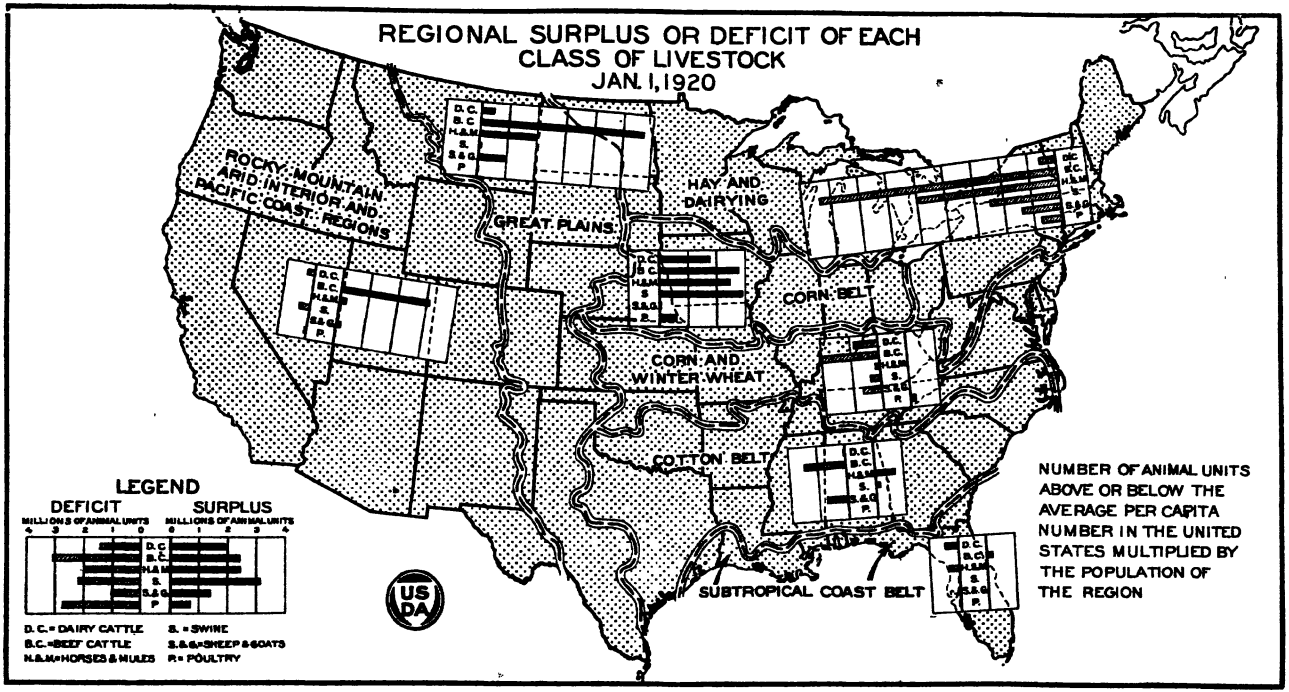


FIG. 12.—The principal regions of surplus livestock production are the Corn Belt and the Great Plains. These two regions produce a surplus of all classes of livestock. The area of greatest deficit is the Hay and Dairying region, where the large urban population has to depend in part upon other portions of the United States for its Animal Foodstuffs, especially for its beef and pork. This region, however, supplies almost its entire need for dairy products. The Cotton Belt also, and even the corn and winter wheat region, depend on the Corn Belt and Great Plains for a large part of their beef.

France, Germany, and Austria was 1 cow to 5 or 6 people; in Ireland, and Sweden (also in Canada), 1 to 3, and in Denmark 1 to 2 people. In Great Britain it was 1 cow to 15 people. England imports much of its dairy supplies from Ireland and the Scandinavian countries.

Ratio of beef cattle to population.—Beef cattle are slightly more numerous than dairy cattle in the United States, but their value is less. The number of people was almost exactly three times that of beef cattle on January 1, 1920. This ratio of beef cattle to human population is highest in the Great Plains region (over three head per person) and lowest in the hay and dairying region (15 persons per head). (See Table 4.) The Great Plains and the Corn Belt are the principal regions of surplus beef production (fig. 12).

TABLE 4.—*Ratios of beef cattle to human population in the different agricultural regions of the United States, January 1, 1920.*

Region.	Population.	Beef cattle (all ages).	People per head of beef cattle.
	Number.	*Number.*	*Number.*
United States	105,710,620	35,288,100	3.0
Subtropical coast	2,682,450	1,082,791	2.5
Cotton Belt	18,176,211	4,020,492	4.5
Corn and winter wheat belt	21,097,430	4,565,209	4.6
Corn Belt	12,263,229	8,110,509	1.5
Hay and dairying belt	41,032,968	2,779,890	14.8
Great Plains	2,662,822	8,163,965	0.3
Rocky Mountain	1,313,228	1,626,722	0.8
Arid interior plateaus	1,556,132	3,713,905	0.4
South Pacific	2,826,599	871,026	3.2
North Pacific	2,099,551	353,591	5.9

Ratio of horses and mules to population.—Next to the dairy cow, the numerical relation of people to work animals (horses and mules) seems to be most constant. There are approximately 4 people in the United States to each horse or mule, including those in cities. In most European countries the ratio is much higher. In France, there are 12 people to 1 horse or mule, in Germany 15 to 1, in Great Britain 20 to 1. This relative scarcity of horses and mules in western Europe is due in part to the large industrial population and in part to the greater use of man labor on farms. In our hay and dairying region, which contains many large cities, the ratio is 10 to 1. In the Great Plains region, on the other hand, there are about as many horses and mules as there are people.

Of equal significance is the fact that there were 17 acres of harvested crops in the United States to each mature horse and mule on farms in 1919. As horses and mules constitute the principal source of power on farms, this ratio of acreage of crop land to number of horses and mules in the different regions of the United States is interesting. The number of acres in crops per work animal is remarkably uniform in the different agricultural regions. (See Table 5.)

TABLE 5.—*Ratios of horses and mules on farms to human population in the different agricultural regions of the United States, January 1, 1920.*

Region.	Population.	Mature horses and mules (2 years old and over).	People per head of horses and mules.	Acres of crops per mature horse and mule on farms.
	Number.	*Number.*	*Number.*	*Number.*
United States	105,710,620	21,872,594	4.8	17.2
Subtropical coast	2,682,450	248,230	10.8	15.0
Cotton Belt	18,176,211	4,575,392	4.0	16.8
Corn and winter wheat belt	21,097,430	4,170,818	5.1	16.6
Corn Belt	12,263,229	4,809,384	2.5	18.6
Hay and dairying belt	41,032,968	4,012,762	10.2	19.3
Great Plains	2,662,822	2,235,677	1.2	16.1
Rocky Mountain	1,313,228	569,143	2.3	13.8
Arid interior plateaus	1,556,132	728,105	2.1	8.8
South Pacific	2,826,599	343,035	8.2	17.3
North Pacific	2,099,551	180,048	11.7	12.6

In the United States there are about 2 work animals (mature horses and mules) on farms per person engaged in agriculture, whereas in Great Britain the ratio is about 1 to 1, and in Germany there are 2 people engaged in agriculture to each work animal. In Italy there are over 4 persons engaged in agriculture to each work animal.

Ratios of hogs and sheep to population.—On January 1, 1920, there were about 2 persons in the United States to each head of swine, the largest ratio, 1 person to 2 hogs, being in the Corn Belt. In the Cotton Belt there were 3 persons to 2 head, and in the corn and winter wheat region there were 2 persons to 1 head. The Corn Belt usually supplies whatever deficiency in pork and lard may exist in other portions of the United States, and also contributes nearly all the exports.

Sheep and goats are found mostly on the arid and semiarid lands of the West, the highest ratio to human population (5 sheep per person) being in the arid interior plateaus region. The average for the United States is 1 sheep to 3 persons.

Poultry are found mostly in regions of abundant feed production, particularly in the Corn Belt and the corn and winter wheat region.

Relations Between Livestock and Forage Production.

Although the function of livestock as consumers of waste on the farm and as a means of utilizing forage on extensive grass areas is apparent, this use of animals affords no adequate explanation of their numerical status in modern agriculture. Even if we add to this the fact that farm animals tend to keep up soil productivity, much yet remains to be said. The importance of the primary products of domestic animals, namely, meat, hides, milk, eggs, wool, and of the use of such animals as beasts of burden, is clearly evident, and it is for these that farm animals are mainly utilized and not for the incidental relations to productivity. On no other theory is the fact intelligible that the product of seven-tenths of our tilled land is fed to animals.

The distribution of livestock in the United States is determined primarily by the quantity and kind of forage available, and secondarily by location with reference to markets and suitability of the land for other agricultural purposes. The introduction of refrigerator cars and the development of large central packing plants have made location, with respect to the ultimate market, of less importance in the production of animal products than the forage supply. Most of the pork consumed in the Atlantic seaboard cities comes from the Corn Belt; most of the beef from the Corn Belt and Great Plains regions; and much of the mutton from the far western States, three-fourths of the distance across the continent. Abundance of corn has made possible the vast development of pork production in the Corn Belt; the grass of the Great Plains, supplemented by the corn of the Corn Belt, has made these two regions the principal centers of beef

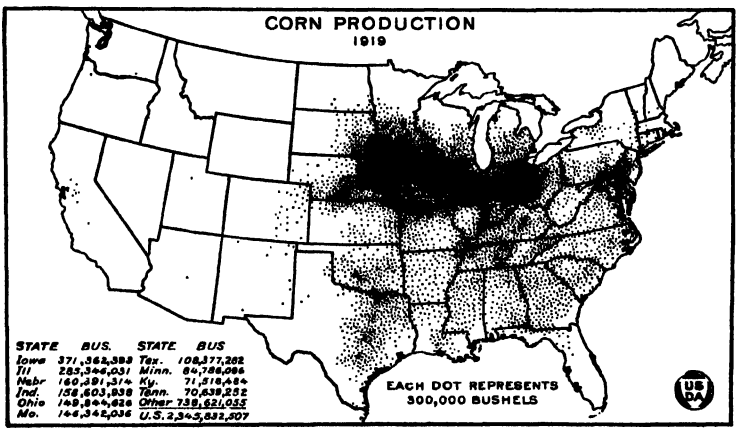


FIG. 13.—Corn is by far our most important forage crop. It supplies over half the harvested forage produced in the United States and is the real foundation of our vast meat-packing industry. More than half of the crop is produced in the Corn Belt (see fig. 12); but corn is the leading crop in value also in the corn and winter wheat region, and is the all-important cereal in the Cotton Belt.

production; and sheep are found on the arid grazing lands of the West, because they can best utilize the scanty forage. Dairying is about the only livestock industry that shows a tendency to develop near the centers of consumption, and the location of the intensive dairying districts mostly in the northeastern quarter of the United States is due as much to favorable conditions for the production of hay and silage as to the proximity of large markets. Intensive poultry production is, in part, located near large markets, but its distribution in the United States is correlated principally with grain production.

Forage Production in the Different Agricultural Regions.

The quantity of forage produced in different sections of the United States varies widely, according to the suitability of the soil and climate to a general system of farming and the influence of cost of production and price upon the selection by the farmer of competing

crop and livestock enterprises. The principal agricultural regions are outlined in Figure 12.

The Corn Belt produces more forage, probably, than any other area of equal size in the world. It may not inappropriately be called the heart of American agriculture. Into it flow the stocker and feeder cattle from the West for fattening, to supplement its home-grown stock, and out of it flow more than two-thirds of the beef and pork consumed in the eastern, northern, and, to a lesser extent, in the southeastern sections of the country (fig. 12). It supplies, moreover, most of the large exports of pork and lard; and, in addition, ships corn and hay in vast quantities to the eastern and southern markets. Although the Corn Belt includes only 8 per cent of the land area of the United States, it produced over 50 per cent of the Nation's corn crop in 1919 (fig. 13), and possessed over 20 per cent of the cattle, 25 per cent of the horses, and 41 per cent of the hogs of the Nation. It contained, on January 1, 1920, about 21,500,000 animal units, or 94 animal units per square mile, which is equivalent to a horse or steer for every 6.8 acres.

The Corn Belt produces on the average 5,000 bushels of corn per square mile, and in addition about 2,500 bushels of oats (fig. 27), over 1,000 bushels of wheat (fig. 35), more than one-quarter of which becomes mill feed for stock, 150 tons of hay and fodder (fig. 14), and provides about 150 acres of pasture. Several counties in the Corn Belt produce annually over 10,000 bushels of corn per square mile in addition to other crops, or over 40 bushels per acre of land in corn.

The next most important forage-producing region is the hay and dairying region, which adjoins the Corn Belt on the north and east, and may now be made to include the former spring-wheat area of western Minnesota and the eastern Dakotas. This region includes about one-seventh of the land area of the United States, and possesses about one-third of the dairy cows and one-fifth of the horses and poultry, but less than one-eighth of the sheep, one-tenth of the hogs, and only one-twentieth of the beef cattle. The region contained over 18,000,000 animal units on January 1, 1920, an average of 45 animal units per square mile. In some of the richer counties, however, there are over 100 animal units per square mile. It produced in 1919 about 125 tons of hay and fodder per square mile (fig. 14), largely timothy and clover (figs. 31 and 33); and, in addition, about 600 bushels of corn, mostly grown along the southern margin, 670 bushels of oats, 400 bushels of wheat, 120 bushels of barley, and 400 bushels of potatoes, of which, however, probably less than 10 per cent is used for feeding stock. In addition to the corn grown for grain and for fodder (figs. 13 and 15), a large acreage is cut for silage (fig. 16). Only 29 per cent of the land area was in harvested crops in 1919.

Of almost equal importance in the production of feed is the corn and winter wheat region, which occupies the area between the Corn Belt and the Cotton Belt and extends up the Atlantic coast as far as New York City. In this region, agriculture is intermediate in character between the northern and southern systems. The average production of corn per square mile of land area is about 1,400 bushels, of wheat 900 bushels, of oats 300 bushels, and of hay and forage 80 tons. Only about one-third of the land is in crops, the remainder being used for pasture and forest. The region includes a little over 10 per cent of the land area of the United States, and contains about

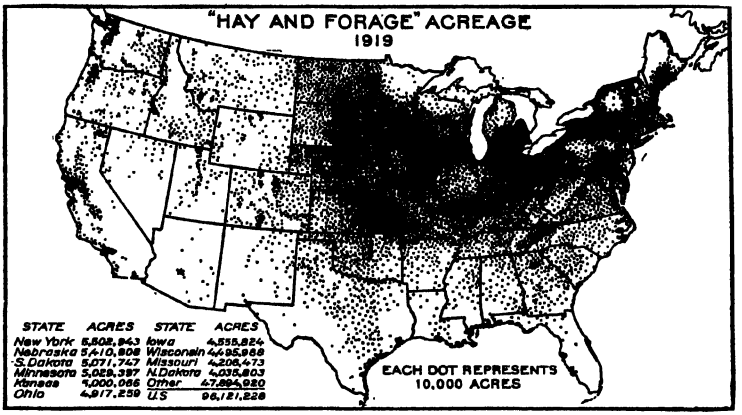


FIG. 14.—"Hay and forage" crops in the census reports include only the crops that are used as roughage for livestock, principally hay, fodder, silage, and roots. The distribution of these crops is heaviest in the north-central and northeastern quarter of the United States, especially around the margin of the Corn Belt and in the hay and dairying region. These regions produce a large proportion of our meat and dairy products.

23 per cent of the horses and mules, 12 per cent of the cattle, 17 per cent of the hogs, 7 per cent of the sheep, and 25 per cent of the poultry. These livestock totaled 15,000,000 animal units on January 1, 1920, an average of 48 per square mile.

The Cotton Belt contains almost as much livestock as the corn and winter wheat region—about 15,000,000 animal units in all. The average number of animal units per square mile, however, is only 34, the Cotton Belt having a larger area. Horses and mules constitute a larger proportion of the livestock than in the other agricultural regions since cotton and corn, which require much more horse and mule labor than the other major crops, constitute nearly three-

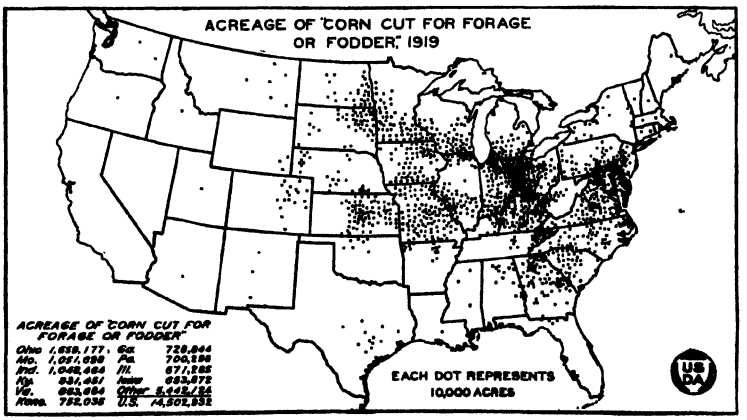


FIG. 15.—The practice of harvesting corn as fodder is less common in the areas of intensive corn production than it is on the outskirts of the Corn Belt. This method of harvesting results in a higher feed value for the crop, but requires too much labor to become popular on farms with a large corn acreage. It is probable that the corn from two-thirds of the acreage shown on this map was husked from the cured fodder and utilized separately as grain.

fourths of the crop land. Corn is the principal feed, the production averaging about 870 bushels per square mile in 1919. In addition, the region produced 200 bushels of oats per square mile, 115 bushels of wheat, mostly in the Texas and Oklahoma portion, 17 tons of hay and fodder, and 12 tons of cotton seed. Only 28 per cent of the land was in crops in 1919.

Extending along the Gulf and South Atlantic coast from Matagorda Bay, Tex., to Charleston, S. C., there is a coastal strip from 30 to 100 miles wide which has an agriculture distinct from that of the Cotton Belt. In much of this subtropical coast region forage crops have become very important, but as only 6 per cent of the land area is in crops, the production of forage per square mile is small. Corn is the principal forage crop, occupying 36 per cent of the crop land in 1919, and hay and roughage, mostly velvet beans, cowpeas, peanuts, and Bermuda grass, occupied nearly 20 per cent. Beef cattle constitute 55 per cent of the total animal units in this region, which is about the same proportion as in the Great Plains region and more

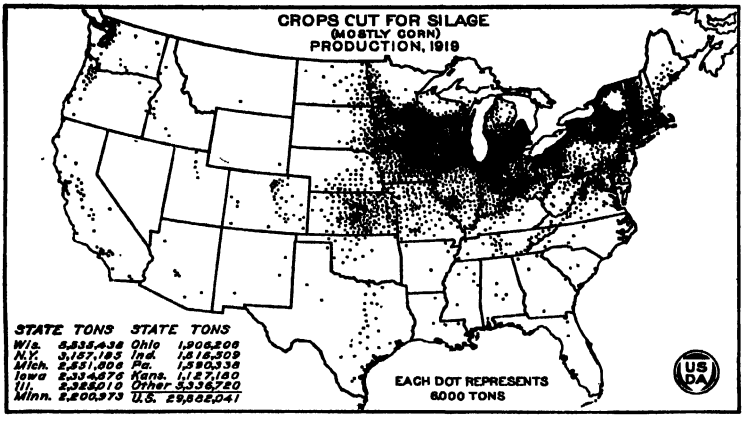


FIG. 16.—The distribution of silage production is correlated closely with the intensity of the dairy industry. The storing of corn and the sorghums in silos is also now becoming common in many of the dry-farming areas of the central and southern Great Plains region and in the irrigated districts of the West.

than double the proportion in any other eastern region. There are many large cattle ranches in southern Florida and along the Texas coast.

These five regions constitute the eastern or humid half of the United States. The rainfall is more or less evenly distributed throughout the year, except that in the western and southeastern sections a larger amount occurs during the summer than in other seasons. In these humid regions the harvested crops—the cereals, hay, fodder, straw, and silage—contribute much more to the sustenance of the livestock than do the pastures. In the western half of the United States, which is largerly semiarid or arid, the pastures provide the larger proportion of the forage. This western half of the nation, like the eastern, may be divided into five agricultural regions; however, moisture and altitude are here the principal factors in determining the use of the land and the systems of agriculture, hence the agricultural regions

in general extend north and south, following the mountain ranges, rather than east and west, as they do in the Eastern States where latitude and soil are the determining factors.

The Great Plains is a semiarid region with summer rainfall. It extends from the Rocky Mountains eastward to about the 100th meridian, or, to be more precise, to where humid systems of farming become dominant and the acreage of crop land exceeds the acreage of pasture. Wheat constituted 29 per cent of the crop acreage in 1919 (fig. 35), hay 25 per cent, corn for grain, fodder, and silage 12 per cent, sorghums 8 per cent (fig. 38), rye 5 per cent, oats 4 per cent, barley 3 per cent. All the feed crops (including 30 per cent of the wheat acreage) totaled about two-thirds of the crop land. However, only about 12 per cent of the land area was in crops, most of the land being used for pasture. The region contained on January 1, 1920, over 11,000,000 animal units, 55 per cent of which were beef cattle. This is an average of 24 animal units per square mile, or half the number in the eastern regions as a whole, and only about one-fourth the number per square mile in the Corn Belt.

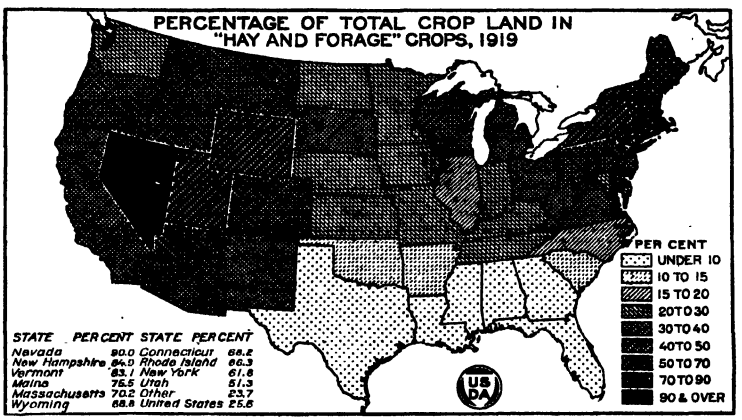


FIG. 17.—"Hay and forage" crops as considered by the census include only those crops which are used as roughage. The percentage of cultivated land devoted to such crops is highest in New England, Wyoming, and Nevada, ranging from 66 per cent to 90 per cent in these States. In most of the States north of the Cotton Belt the proportion is between 20 and 40 per cent.

The Rocky Mountain, arid interior plateau, and south Pacific regions consist, in general, of partially forested mountains with subhumid to arid slopes, plateaus and valleys, many of which contain a considerable acreage of irrigated and dry-farmed land. The north Pacific region, however, possesses a humid climate, except during summer, and is largely in forest. From the crest of the Rocky Mountains westward, except in New Mexico and eastern Arizona, the rains come in the late fall, winter and spring, and the summers are practically rainless.

These four regions include over one-third of the land area of the United States. About 80 per cent of the land in these regions is pasture and range, very largely arid and of low carrying capacity, and only 3½ per cent is in crops. About 35 per cent of the crop land

was in "hay and forage" in 1919 (fig. 17), mostly alfalfa, wild hay, and grain hay (fig. 22), with a little timothy and clover in the moister valleys (figs. 31 and 33); 30 per cent was in wheat, 7 per cent was in fruit, 4½ per cent in oats, 6 per cent in barley, 2½ per cent in potatoes and vegetables, 2 per cent in corn, and 1 per cent in sugar beets. Nearly two-thirds of the crop land is used to produce forage. The four regions contained on January 1, 1920, about 12,000,000 animal units, 44 per cent of which were beef cattle and about 20 per cent sheep. The average number of animal units per square mile was less than 12, which is half of the density in the Great Plains region, one-fourth that in the humid eastern portion of the United States, and one-eighth that in the Corn Belt.

Harvested Forage.

Forage is commonly divided into two broad groups—*roughages* and *concentrates*. The latter group includes all forage of high feeding value per unit of weight, such as grains, while roughage consists of feed materials of relatively low nutritive value. Six classes of roughage are commonly recognized; (1) Hays and fodders, (2) straws and stovers, (3) silage and roots, (4) green feed or soilage, (5) mature crops pastured off, and (6) pasturage.

Pasturage is so important and so different in character from the other classes of roughage that it is discussed separately in the latter part of this article. The practice of soiling or feeding crops cut green is not common in the United States, but is sometimes resorted to by dairymen for short periods of time when other roughage is scarce. However, there is no information on which to base even an approximate estimate of the quantity of feed utilized in this manner, and it is believed that much of the feed obtained in this way has been included under other items in the census classification. In this section, therefore, only the production and relative importance of the concentrates, of the three principal classes of harvested roughage, and of mature crops pastured off are considered.

Feed units.—In order to measure even roughly the relative importance of such diverse feeds, it is necessary to estimate the feeding value of each. The Danish or Scandinavian feed-unit system has been used, because it is simple and seems to be best adapted to the requirements of this article.[10] It is realized that this system, like all

[10] Wisconsin Agricultural Experiment Station Circular No. 37, by F. W. Woll, Table No. 1, supplied the basis for the calculation, but the feed value of a few items was slightly altered. The following theoretical annual rations per animal unit were used:

	Tons.
Concentrated feeds:	
Cottonseed or flaxseed meal and peanuts	2.10
Corn, barley, rye, emmer, and spelt	2.65
Wheat, mixed grains, dry beet pulp	2.75
Oats, sorghums, rice	2.85
Hays and fodders:	
Alfalfa, annual legumes, clover	5.00
Corn fodder and small-grain hays	7.00
Hays and fodders—Continued.	
Timothy, wild hay, miscellaneous tame hays, and sorghum fodder	8.00
Straws and stovers:	
Corn and sorghum stover	10.00
Oat and rice straw	11.00
Cottonseed hulls	12.00
Barley straw	13.00
Wheat, rye, and flax straw	15.00
Silage and roots:	
Silage and sweet potatoes	16.00
Potatoes	20.00
Wet beet pulp and roots	32.00

The feed value of mature crops pastured off was estimated by using for the annual legumes the same ration as for the hays, since both contain the seed; and for corn the same ration as for fodder.

others, has its defects, but it is believed to be sufficiently accurate for the purpose in view.

It is, of course, not implied that an animal could thrive satisfactorily on any one feed alone, whether grain, hay, straw, or silage; but the number of animals that definite amounts of these four feeds will sustain is the same, whether calculated each by itself or combined into a balanced ration. In other words, the number of animal units that the whole forage supply will maintain, based on the yearly rations indicated, will not be changed by figuring on the basis of practicable rather than on theoretical rations, nor if 2 animals for 6 months each be assumed rather than 1 animal for 1 year.

To provide for satisfactory growth and fattening, these theoretical rations might need to be increased materially for some farm animals. The theoretical ration used is the closest estimate that could be made of the average plan of nutrition of all livestock in the United States. That these rations are approximately correct is indicated by comparing the results of the calculations of the feed value of the crops used for forage and of the grazing capacity of the pastures with the aggregate number of animal units in the United States, as shown by the census. These calculations were made entirely independently of each other and resulted in estimates that the crops fed to livestock in 1919 had a feed value sufficient to support about 55,000,000 animal units and the pastures sufficient to support 52,000,000 animal units, a total of 107,000,000. The census enumeration indicates an aggregate of 106,000,000 animal units on farms and in cities on January 1, 1920, and after allowance is made for slaughter, deaths, and births by months during the year, it appears that the average number of animal units during the 12 months of 1919 was about 110,000,000.

Classes of Harvested Forage.

The concentrates supply more feed than all of the other classes of harvested forage combined, the hays and fodders furnish less than 30 per cent of the total harvested feed, and the aggregate feed value of the straws and stovers, silages and roots, and mature crops pastured off, is only about 13 per cent of the total. (See Table 6 and fig. 18.)

TABLE 6.—*Classes of forage (excluding pasture): Production, estimated quantity fed, and aggregate feed value in 1919.*

Classes of forage.	Production.	Estimated quantity eaten by livestock.	Animal units each item would theoretically support for one year.
	Tons.	*Tons.*	*Number.*
Concentrates	122,433,000	85,494,000	31,862,000
Hays and fodders	106,558,000	101,918,000	15,761,000
Straws and stovers	169,455,000	45,420,000	4,301,000
Silage and roots	44,147,000	34,263,000	2,034,000
Mature crops pastured off	6,035,000	4,978,000	855,000
Total			54,813,000

Concentrates or Concentrated Feeds.

The concentrates include grains, seeds, and the by-products of grain mills, such as bran, rice polish, and oat feed; of breweries and distilleries, such as malt sprouts and brewer's grain; of oil mills,

such as the meal and cake from cottonseed, flaxseed, peanuts, and soybeans. The by-products of packing houses, such as blood meal, tankage, and fish meal, are also considered concentrates, but as these are animal products they are not included in this discussion of forage resources.

Estimates of the quantity of grain and other concentrated feeds produced in the United States and consumed by farm animals in 1919, and the approximate number of animal units each item would theoretically support for one year are shown in Table 7. Certain minor concentrates, including seed screenings, sunflower seed, and molasses are omitted.

TABLE 7.—*Concentrated feeds: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*[1]

Concentrates.	Acreage.	Production.	Production, less seed and net exports.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Corn	87,772	65,683	65,083	[6] 58,576	2.65	22,104
Oats	37,991	16,883	14,743	14,256	2.85	5,002
Wheat	73,099	28,362	19,735	[7] 6,555	2.75	2,384
Sorghum (grain)	3,619	2,018	1,997	1,997	2.85	701
Barley	6,473	2,929	1,932	[6] 1,519	2.65	573
Cottonseed (meal and cake)	.....	[2] 1,817	1,592	986	2.10	470
Rye	7,679	2,128	711	510	2.65	192
Flaxseed (meal and cake)	.....	121	[4] 241	241	2.10	112
Mixed grains	577	311	311	280	2.75	102
Beet pulp (dry)	.....	175	175	175	2.75	64
Rice	911	795	308	[8] 90	2.85	32
Peanuts:						
Nuts	1,125	302	367	18	2.10	9
Cake and meal	.....	[3] 82	82	62	2.10	30
Emmer and spelt	167	73	67	67	2.65	25
Field peas	233	81	65	52	2.85	18
Field beans	1,162	422	440	44	2.65	17
Sweet corn	272	91	90	30	2.65	11
Soybeans:						
Seed	113	33	10	8	2.65	3
Cake and meal	.....	.....	[5] 8	8	2.75	3
Velvet beans	150	36	15	15	2.75	5
Cowpeas	633	91	10	5	2.85	2
Total	221,976	122,433	107,982	85,494	.....	31,862

[1] For methods employed in calculating the figures given see footnotes under Tables 13 to 20.
[2] From report of the Federal Trade Commission on Commercial Feeds, March 29, 1921.
[3] Accurate data regarding the production of peanut cake and meal are not available. This estimate is based on the quantity of peanut oil produced by domestic mills in 1919.
[4] Imports of flaxseed and products exceed exports.
[5] There were 8,000 tons of soybean cake imported in 1919, according to the reports of the Department of Commerce, Bureau of Foreign and Domestic Commerce, 1910–1920.
[6] Includes brewers' grains and malt sprouts.
[7] Mill feed mostly.
[8] Bran and polish with the accompanying broken grains or "grits."

It appears that the concentrates alone would theoretically feed nearly 32,000,000 adult cattle for one year, whereas all other harvested feed actually eaten would support about 23,000,000. Among the concentrates corn is by far the most important, providing about

RELATIVE IMPORTANCE IN LIVESTOCK PRODUCTION OF THE FIVE PRINCIPAL CLASSES OF HARVESTED FORAGE, UNITED STATES, 1919.

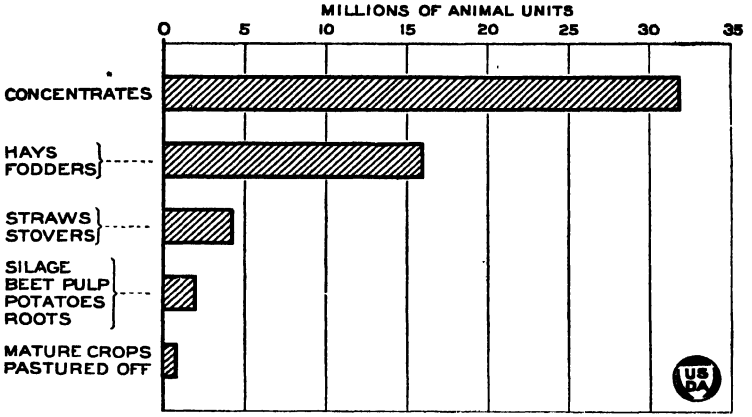


FIG. 18.—The concentrates alone provide sufficient feed to sustain over 32,000,000 animal units for one year, which is almost exactly twice the number that could be maintained on the hays and fodders, and is greater than the total of all other harvested forage.

70 per cent of the total feed value of the concentrates; oats constitute about 16 per cent, and mill feeds from wheat over 7 per cent (fig. 19). On the basis of feed value nearly half of the concentrates are produced in the Corn Belt.

PRODUCTION OF IMPORTANT GRAINS AND THE PROPORTION FED TO FARM ANIMALS, UNITED STATES, 1919.

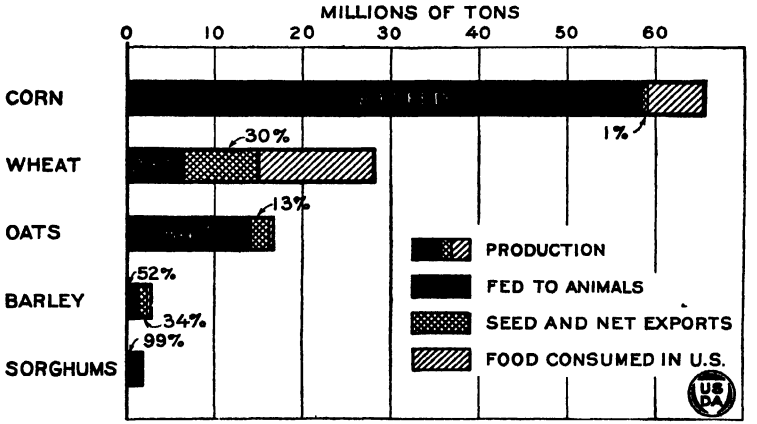


FIG. 19.—Corn is by far the most important grain feed of livestock in the United States. Oats rank second, although the total production is less than that of wheat. The wheat represented as fed to livestock consists of the bran, middlings, and other by-products of the flour mills, and an estimated 2 per cent of the grain fed to poultry and other farm animals.

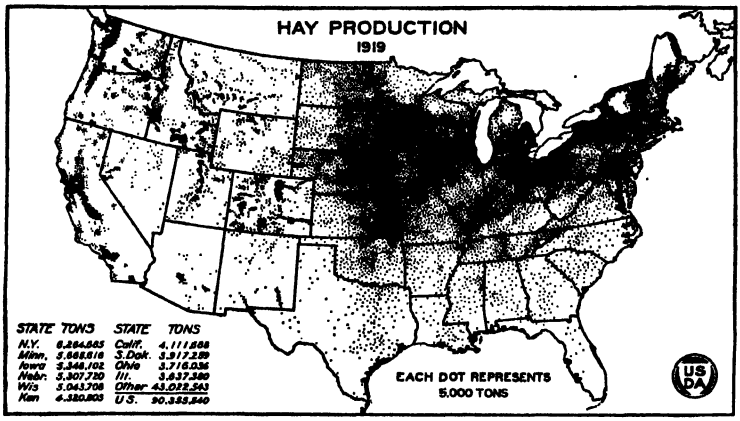


FIG. 20.—The production of hay is greatest in the hay and dairying region, in the western Corn Belt, and in the irrigated valleys of the West. New York leads all other States in production followed closely by Minnesota, Iowa, Nebraska, Wisconsin, and Kansas. These States produce one-third of the entire hay crop of the country.

Hay and Fodder.

The total area devoted to hay and fodder crops in 1919 was a little over 82,000,000 acres and the production about 107,000,000 tons, according to the census [11]. The production of hay, it will be noted in

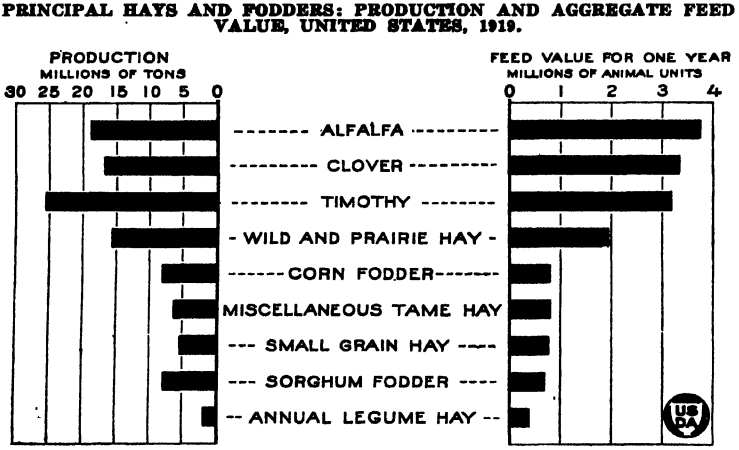


FIG. 21.—Alfalfa hay, on account of its high feeding value per unit of weight, leads all the hays and fodders in the number of animal units it will theoretically support for one year. The production of timothy hay is considerably greater than that of clover hay, but the latter outranks it in aggregate feed value. The production of timothy and clover mixed, as reported by the census, is assigned half to timothy and half to clover.

[11] The word "fodder" in the United States is applied mostly to harvested and dry-cured corn or similar plants, like sorghum, when the whole plant, both herbage and grain, are fed together. It is hereafter used in that sense. In the South, corn fodder refers to the leaves and tops of the plants which are dried after removal from the living plant before the ears are mature.

Figure 20, is heaviest in the hay and dairying region, in the western part of the Corn Belt, and in the valleys of the West. The leading States in hay production in 1919 were New York, Minnesota, Iowa, Nebraska, Wisconsin, and Kansas in the order named. These States produced approximately one-third of the total hay crop of the United States. In Table 8 are given the acreage, production, estimated quantity eaten by livestock, and approximate feeding value of each of the hay and fodder crops. They are arranged in the order of the number of animal units each would support for a single year. In the feeding of hay the wastage is from 10 to 15 per cent, and this has been considered in determining the annual ration. Figure 21 shows the production and feeding value of the principal classes of hay and fodder in 1919.

TABLE 8.—*Hays and fodders: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of hay or fodder.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Alfalfa	8,625	18,853	18,853	5	3,771
Clover [1]	12,835	16,818	16,818	5	3,364
Timothy [1]	20,616	25,470	25,470	8	3,184
Wild grass	17,126	15,631	15,631	8	1,954
Corn (fodder) [2]	4,500	8,100	5,670	7	810
Miscellaneous tame grass [3]	6,056	6,404	6,404	8	800
Sorghum (fodder) [4]	4,747	7,913	5,539	8	692
Oat [5]	2,300	2,300	2,300	7	329
Wheat [5]	1,700	1,700	1,700	7	243
Cowpea [6]	1,100	990	990	5	198
Barley [5]	1,500	1,313	1,313	7	188
Soybean [6]	287	287	287	5	57
Peanut [6]	307	230	230	5	46
Velvet bean [7]	193	193	193	5	39
Rye [5]	175	159	150	7	21
Field bean [6]	64	92	92	5	18
Field pea [6]	59	69	69	5	14
Vetch [6]	30	45	44	5	9
Hay, net imports [8]	.....	.....	165	7	24
Total	82,220	106,558	101,918	.....	15,761

[1] Includes half of the "timothy and clover mixed" acreage and production.
[2] It is estimated that of the 14,502,932 acres of corn cut for forage, as given in the census, approximately 10,000,000 acres were also reported to the census enumerator under "Corn harvested for grain." Consequently only the product from 4,500,000 acres is included as corn fodder in this table.
[3] Includes redtop, orchard grass, Bermuda grass, Johnson grass, millet, Kentucky blue grass, crab grass, and Sudan grass.
[4] Includes sugar cane cut for forage, but this is a negligible quantity.
[5] The census gives only the total for "small grains cut for hay." This has been divided among the four small grains according to the best information available.
[6] The census gives only the total for "Annual legumes cut for hay." This has been divided among the six annual legume crops (excluding velvet beans), according to the best information available. (See Table 20.)
[7] The census gives only a total acreage of velvet beans; this has been divided among the different methods of harvesting according to the best information available.
[8] In 1919 there was a net import of 165,000 tons of hay, mostly from Canada. The variety is not given, but the hay probably consists mostly of timothy and clover. It has been included only in the totals.

The relative importance of different kinds of hay in the Northeastern, Southeastern, and Western States is indicated in Figure 22. Timothy and clover mixed is the prineipal hay crop of the Northeastern States and timothy seeded alone stands second on the list. In the Southeastern States a large proportion of the total is con-

tributed by "other tame grasses" and by annual legumes. In the Western States alfalfa and the native grasses provide the larger part of the hay with the small grains ranking third.

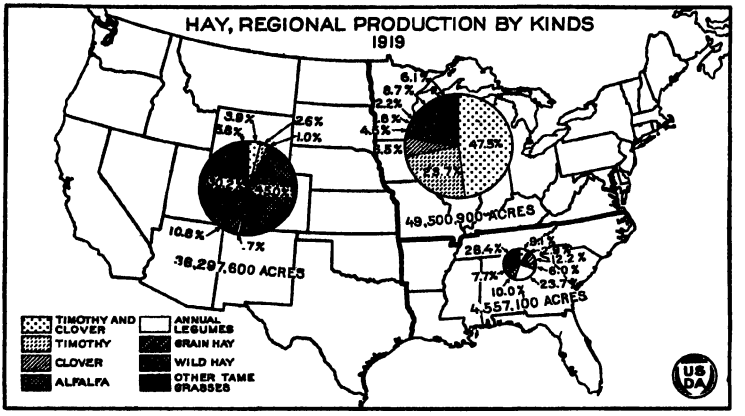


FIG. 22.—In the northeastern humid region (the States north of the Cotton Belt and east of the Great Plains) timothy constitutes nearly half the acreage of hay, and mixed with clover nearly a quarter more. In the Southeastern States the census group known as "other tame and cultivated grasses" (in this region largely Bermuda and Johnson grass) and the annual legumes are the most important hay crops, constituting each about one-quarter of the acreage. In the Western States alfalfa is the dominant hay crop, with wild hay second in importance.

Straws and Stovers.

Straws and stovers [12] are the least nutritious of all substances used as feed, if estimated on the basis of dry weight. The best of them

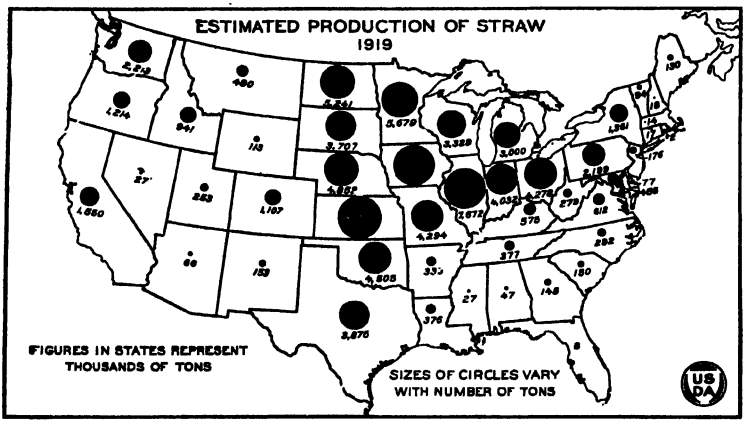


FIG. 23.—An estimate of the quantity of straw produced in each State has been made chiefly by calculating it from known ratios of straw to grain for the different cereals. Much of the straw is wasted or used for other purposes than for feeding livestock; yet on account of the immense quantity produced it forms no inconsiderable part of our forage resources. The centers of straw production are the Corn Belt and Great Plains States and the western portion of the hay and dairying region.

[12] The term "stover" is applied to the harvested and dry-cured stalks and leaves of corn and similar plants after the grain has been removed.

are scarcely good enough to keep an animal alive for any considerable period when they constitute the sole ration. Nevertheless, utilized in connection with other feeds they are far from valueless, and taken as a whole they have a feeding value over one-fourth that of the hays and fodders. In Table 9 is shown the estimated production of the principal straws and stovers, an estimate of the amount of each actually eaten, and the number of animal units that each would theoretically support for one year.

TABLE 9.—*Straws and stovers: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of straw or stover.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Corn (stover)[1]	87,772	75,000	25,000	10	2,500
Oat	37,991	34,000	10,000	11	909
Wheat	73,099	43,000	4,300	15	287
Sorghum (stover)[1]	3,957	4,946	2,473	10	247
Cotton (seed hulls)[2]	.....	1,143	1,029	12	86
Field bean	1,162	581	523	8	65
Peanut	1,125	563	422	7	60
Barley	6,473	3,000	750	13	58
Cowpea	633	316	237	8	30
Rye	7,679	5,000	250	15	17
Mixed grains	577	508	152	11	14
Field pea	233	116	87	8	11
Rice	911	911	90	11	8
Soybean	113	56	42	8	5
Flax	1,261	315	65	15	4
Total	222,986	169,455	45,420	.....	4,301

[1] A large part of the corn-stover item is from stalks left standing in the field after the grain has been harvested. This forage is really pastured off and is not stover according to the commonly accepted definition of the term, but for the purpose of estimating its feeding value it has been classed with the stovers.
[2] Cotton-seed hulls do not belong in any of the chief groups, but are similar to straw in unit feeding value and are therefore considered here.

The most important items, it will be noted, from the standpoint of feed utilized are corn stover and oat straw. The corn stover is necessarily most abundant in the Corn Belt, and the oat straw in a crescent-shaped area bordering the Great Lakes (figs. 13 and 27). The relative importance of the States in the production of straw is shown in Figure 23.

Silage and Root Crops.

These products differ from other harvested feeds in their high water content, and hence are called succulent feeds. Silage is particularly important in connection with dairying. Most of the silage is made from corn, but an important fraction from sorghum. The geographic distribution of crops cut for silage is shown in Figure 16.

Sugar beets, although grown principally as a source of sugar, furnish a by-product, beet-pulp, which is an important item of forage. Usually only cull potatoes are used for feed in the United States. These, together with potato peelings commonly fed to livestock or poultry on farms, are estimated at about 10 per cent of the crop available for consumption. It is similarly estimated that about 20 per cent of the sweet potatoes are used for feed. Root-crops are unimportant in the United States. They are grown mostly in regions

of cool summer climate—New England, New York, the Lake States, and the North Pacific coast. The total production in 1919, of silage, wet beet-pulp, potatoes and sweet potatoes, and other root crops such as mangels, rutabagas, and turnips, the estimated amount consumed by livestock, and the number of animal units each item will support for one year are shown in Table 10.

TABLE 10.—*Silage, root-crops, and other succulent feeds: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Corn silage	3,924	29,284	29,284	16	1,830
Beet pulp (wet)	.....	2,550	2,550	32	80
Potatoes	3,252	8,713	797	20	40
Sweet potatoes	804	2,343	440	16	28
Sorghum silage	79	398	398	16	25
Root crops	88	599	599	32	19
Canning pea silage [1]	104	260	195	16	12
Total	8,251	44,147	34,263	.....	2,034

[1] This consists of the refuse from pea canneries.

Unmarketable fruits and vegetables used for feed have been omitted. The quantity is not known, but the feeding value is undoubtedly small. It will be noted that silage is nearly tenfold as important as all the other succulent feeds.

Mature Crops Pastured Off.

An increasing proportion of the corn and annual legume crops is being utilized by turning the livestock into the fields to pasture off

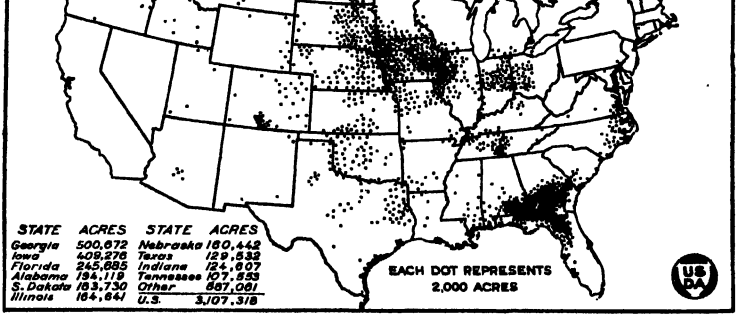


FIG. 24.—The acreage of mature crops pastured off is composed very largely of corn in the Northern States and of cowpeas, velvet beans, and peanuts in the Southern States. In many cases these legumes are interplanted with corn in the South, and in the Corn Belt the practice of planting soybeans in the corn which is to be "hogged off" is becoming quite common. The acreage indicated in the San Luis Valley of Colorado is very largely field peas or field peas and some small grain grown in mixture.

the crop. This saves labor, which is now so expensive, and results in the utilization of almost as large a proportion of the crop as though it were harvested by man.

The census reports 3,107,000 acres of "crops hogged off" in 1919 (fig. 24). In the North these crops were almost wholly corn and a small acreage of soybeans; but in the South much of the acreage consisted of peanuts, cowpeas, and velvet beans, grown alone or mixed with corn. In Table 11 the total acreage of the several crops is greater than the census total shown, owing to interplanting, but allowance has been made in the estimated production for the mixed crop acre yields. The proportioning among the different crops of the total acreage given by the census and the estimates of production are

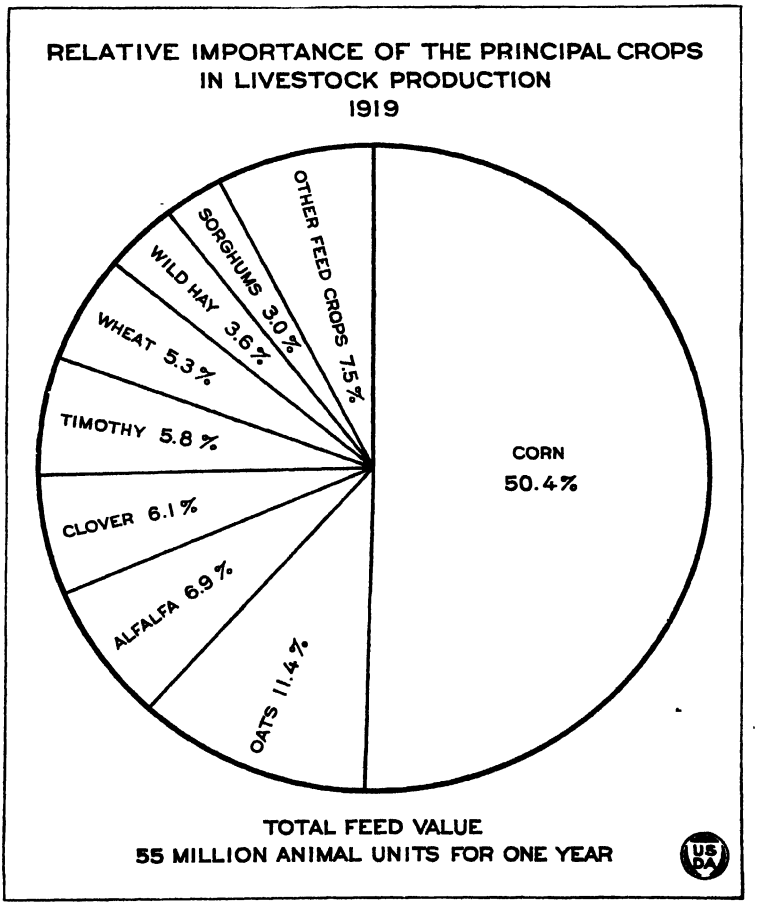


FIG. 25.—Corn contributes as much feed for our livestock as all other crops taken together. Corn originated in the Western Hemisphere, and was the chief food grain of the American Indian when this country was discovered by the white man. While it has not retained its primitive importance among the food crops, it now occupies a dominant position among the feed crops, and indirectly, in the form of pork, lard, beef, poultry, eggs, and milk, it provides a large proportion of the animal foods consumed by the American people.

TABLE 13.—*Corn: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	87,772	65,683	58,576	2.65	22,104
Fodder	4,500	[2] 8,100	5,670	7.00	810
Stover	87,772	75,000	25,000	10.00	2,500
Silage	3,924	29,284	29,284	16.00	1,830
Pastured off	2,350	[3] 3,525	[4] 2,468	7.00	353
Sweet corn	272	91	30	2.65	11
Total	[1] 98,818				27,608

[1] The acreage of stover is included also in the grain acreage, hence it is omitted from the total.
[2] Average yield of corn plus the average yield of stover.
[3] Average yield of corn plus the average yield of stover reduced by one-sixth for interplanting of leguminous crops in the South.
[4] It is estimated that 70 per cent of the crop, the same as for fodder, is eaten by livestock.

Oats.

Oats are grown mostly in the moderately cool and humid northeastern quarter of the United States with a less dense acreage extending down the prairies to central Texas (fig. 27). Three-fourths

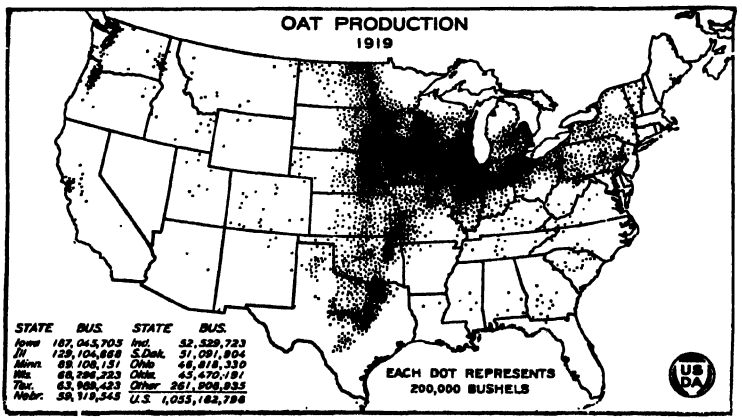


FIG. 27.—Oats rank second to corn among the crops producing harvested forage. The threshed grain is valued especially for feeding work animals. Production of oats is heaviest in the northern portion of the Corn Belt, but the crop is very important also in the hay and dairying region and in eastern Kansas, Oklahoma, and Texas.

of the oats are grown in the Corn Belt and the hay and dairying region (fig. 12). The oats in the Corn Belt are not grown because of peculiarly favorable climatic conditions, but rather because of the need of a grain to feed work animals and of a spring grain nurse-crop for clover which will not require attention when labor is needed for the corn and hay crops. In parts of the Corn Belt soybeans are now rapidly replacing oats. An analysis of the oat crop from a forage standpoint is presented in Table 14.

TABLE 14.—*Oats: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	37,991	16,883	[2] 14,256	2.85	5,002
Hay	2,300	2,300	2,300	7.00	329
Straw	37,991	34,000	10,000	11.00	909
Total	[1] 40,291				6,240

[1] The acreage of straw is included also in the grain acreage, hence it is omitted from the total.
[2] This quantity represents the production less that used for seed and food and the net exports.

Oats are second in importance to corn in the production of forage. Less than 5 per cent of the grain, according to the best interpretation of the Census of Manufacturers, is used for food. The grain is, therefore, nearly all fed to livestock and the 14,250,000 tons are sufficient to support 5,000,000 animal units one year. Probably more oats are cut green for hay than any other small grain. The amount is roughly estimated at 2,300,000 tons for 1919. Oat straw is also much used as a feed, being considered superior to the straw of any other cereal. It is estimated that 10,000,000 tons were eaten by livestock in 1919. Taken as a whole, the oat crop furnished the equivalent of a full year's ration in 1919 for about 6,240,000 animal units.

Alfalfa.

Alfalfa as a hay crop is exceeded in total tonnage produced only by timothy and clover mixed, but owing to its high feeding value, alfalfa leads the hays in number of animal units it will support. The

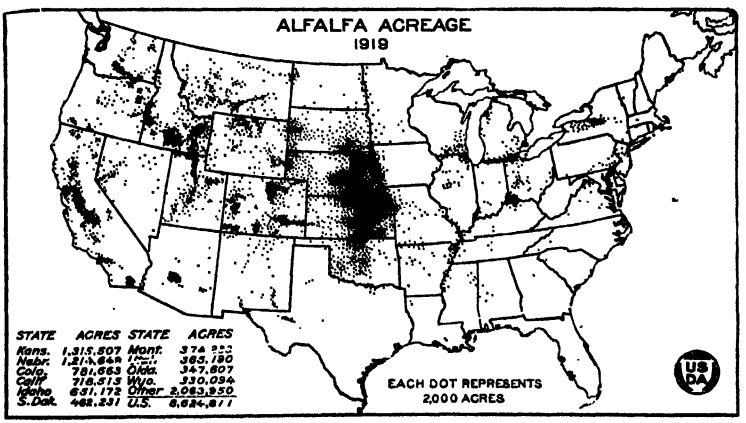
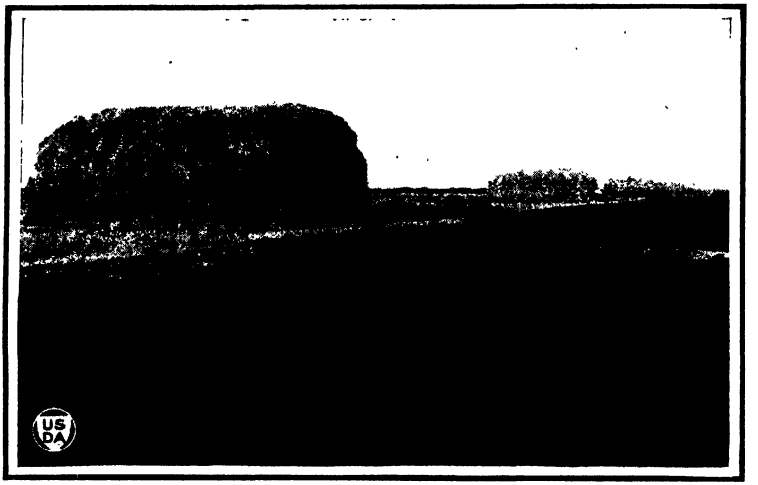


FIG. 28.—Kansas and Nebraska led in alfalfa acreage in 1919. The climate in these States is subhumid and the soil is fertile and well supplied with lime. Most of the alfalfa west of the one hundredth meridian is grown under irrigation. On the irrigated lands it is commonly the leading crop. Less than 9 per cent of the alfalfa acreage of the United States is east of the Mississippi River and only 13¼ per cent east of the ninety-fifth meridian, which is approximately the eastern boundary of Kansas.

crop of 1919 was sufficient to support (theoretically) 3,771,000 animal units for one year. At present alfalfa constitutes over 19 per cent of the total hay crop of the country and 45 per cent of the hay harvested west of the eastern line of the Dakotas, Nebraska, and Kansas. Since 1899 the acreage of alfalfa in the United States has practically doubled every 10 years; and while the acreage will continue to grow, it is not at all probable that the present rate of increase will be maintained. The increase of acreage in the past 20 years has been promoted by a very active and intensive propaganda favoring alfalfa. This propaganda is now much less widespread and in many sections practically discontinued; furthermore, in the future, new land suitable for the production of alfalfa is not likely to become available in sufficient quantity so that any large increase in alfalfa acreage may be expected from this source. Notwithstanding the extensive campaign conducted in behalf of alfalfa in the eastern part of the United



ALFALFA IN STACK ON IRRIGATED FARM.

FIG. 29.—Alfalfa is the premier hay crop on the irrigated lands of the Western States. It can be cut from two to six times during the year, depending on the length of the growing season and the adequacy of the water supply. On account of its quick recovery after cutting the yield per acre is larger than that of any other hay plant and the feeding value of the hay is very high.

States there is now only 13½ per cent east of the 95th meridian which approximates the eastern boundary of Kansas. The climatic and soil relations of alfalfa, particularly the former, are very largely responsible for the relatively small acreage in the East. The distribution of the alfalfa acreage in 1919 is shown in Figure 28 and its relative standing among the crops which produce harvested forage is shown in Tables 8 and 12.

The average yield of alfalfa hay in the entire United States is 2.2 tons per acre. Most of the hay produced is fed on the farms where it is grown or sold for local use, but it finds a ready sale in all parts of the country where it is known. It is quoted regularly on the markets of Kansas City, Omaha, Minneapolis, Chicago, San Francisco, and St. Louis. During 1920 and 1921 alfalfa hay sold at a higher price per ton than shelled corn on the

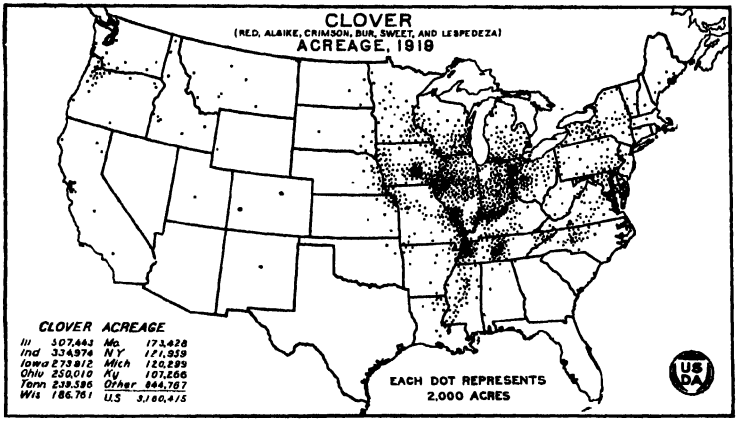


FIG. 30.—It is said that the best interests of a permanent agriculture require about 20 per cent of the cultivated acreage to be in clover or a similar crop every year. In 1919 only 2.7 per cent of the cultivated land on farms in the Corn Belt was devoted to clover. If half the acreage of timothy and clover cut for hay is considered as clover, the percentage is raised to 10, or only half the desired acreage.

Kansas City market, and appreciably above the price commanded by timothy and other hays. In New York City, where alfalfa hay is less well known, it sells at a lower price than timothy. It is estimated that approximately 300,000 tons of alfalfa hay are ground into meal. This meal is sold as it comes from the mills or is used as an important constituent of mixed feeds.

Clovers.

The clovers rank fourth among the forage-producing crops of the United States. They will (theoretically) support 3,364,000 ani-

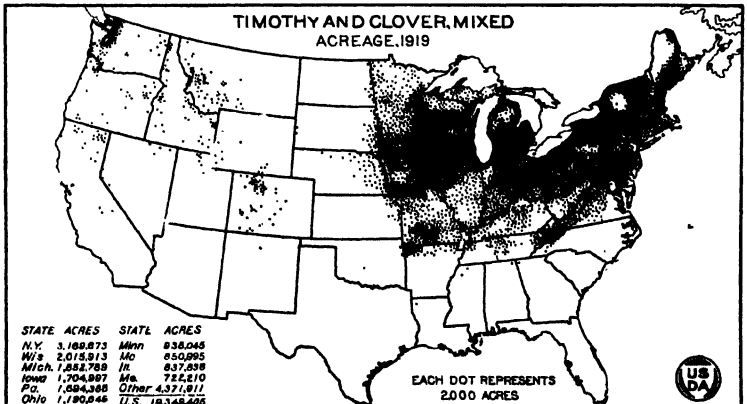
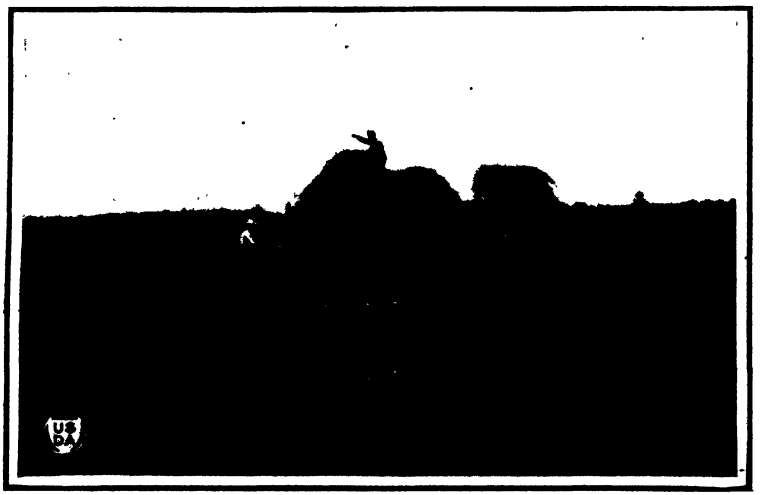


FIG. 31.—Timothy and clover, mixed, is the premier hay crop of the northeastern quarter of the United States. The total production of this mixed hay is nearly twice that of timothy alone and over six times that of clover alone. Timothy and clover do not thrive in dry regions except when irrigated. The crop is well suited to the Puget Sound district, and is increasing in importance there. Compare with maps of alfalfa (fig. 28) and of wild hay (fig. 37).

mal units for one year. (See Tables 8 and 12.) In 1919 there were produced 4,147,050 tons of clover hay (fig. 30) and 25,341,314 tons of mixed clover and timothy hay (fig. 31) on a total of 22,509,820 acres. Of this total 93 per cent was produced in the territory east of the Dakotas, Nebraska, and Kansas, and north of the southern boundary of Missouri, Tennessee, and North Carolina. This is the great clover region of the United States, though clovers are grown in other States; sometimes in small isolated sections, as in Louisiana and in the mountain valleys of the Rockies, and again over considerable areas, as in the Pacific Northwest and along the eastern fringe of the Great Plains States.

Clover hay, as reported by the census, includes that made from red, alsike, crimson, and sweet clover, and, in the Southern States, that made from lespedeza or Japan clover and bur clover. While no exact figures of the quantity of hay produced by each clover are available, it seems probable that in the main clover region about 65 per cent is red, 30 per cent alsike, and 5 per cent crimson and sweet clover. In the northeastern quarter of the United States the red and alsike clovers are by far the most important legumes (fig. 22); but in other sections they are of minor importance, except along the north Pacific coast.

Sweet clover is little used for hay, though the practice of cutting the first season's growth late in summer is increasing. Its chief use is as a rotation pasture crop. Sweet clover thrives and is used on a wide variety of soils. It has been found especially profitable on the two extremes of high-priced rich soil and low-priced poor soil; in the first because it carries more animals per acre than most other crops, and in the second because it is one of the few crops that can be profitably grown. It is eaten by all classes of livestock, but is especially valuable for beef and dairy cattle and horses.



HAYMAKING IN OHIO.

FIG. 32.—Haying machinery, such as the power stacker, the automatic loader, and the buck rake, are not used in the harvesting of timothy hay to the same extent that they are employed in stacking alfalfa hay. Much of the timothy crop is still harvested by the method shown here.

Timothy.

Timothy is by far the most important perennial hay grass in American agriculture, producing each year more than twice as much hay as all other tame grasses (not legumes), both annual and perennial, and including the small-grain hays. In estimating the total acreage and production of timothy, half of the census figures for "Timothy and clover" are credited to timothy (see Table 8). The

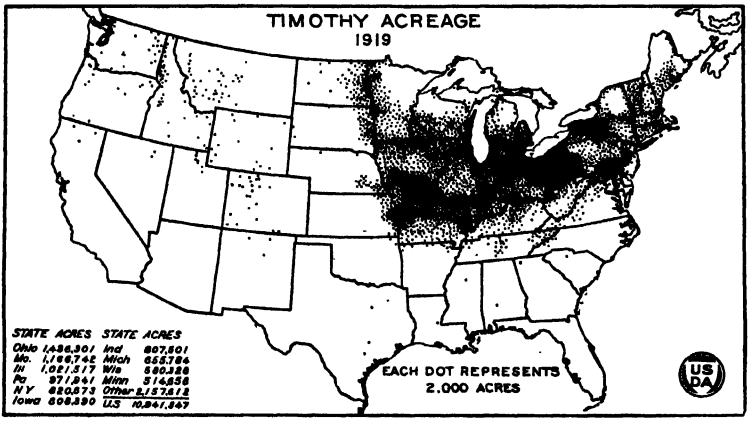


FIG. 33.—Timothy is practically confined to the northeastern quarter of the United States, except for a scattered acreage in the cool, moist valleys of the Rocky Mountain region. There were nearly 1,500,000 acres devoted to timothy cut for hay in Ohio in 1919, and Missouri and Illinois each are credited with over 1,000,000 acres. In general, timothy is grown on somewhat poorer or heavier soils than clover or timothy and clover mixed.

acreage and production of timothy show little change since 1909, the first year for which timothy figures are available. The average yield per acre, according to the census figures, is 1.24 tons. The timothy crop alone will theoretically support for one year 3,184,000 animal units.

One of the most important factors in the widespread popularity of timothy is its excellence as a market hay. For many years it has been regarded as the standard for all grass hays in the markets of large cities, partly owing to its good shipping qualities and general uniformity but more perhaps to the fact that it is valued very highly as roughage for work animals, particularly for driving horses. The market demands of large cities as well as climate have had their influence on the distribution of the timothy acreage, which is shown in Figures 31 and 33.

Wheat.

Wheat is the most important cereal used for human food, but furnishes in addition a great amount of feed for animals. According to the Census of Manufacturers, flour constituted only about 71 per cent of the wheat milled in 1919. The principal by-products are bran, shorts, middlings, and screenings. These mill feeds will theoretically support for one year 2,384,000 animal units and cause wheat to rank third in importance among our crops as a producer of concentrates. Very little wheat is fed as grain to livestock, except that some low-grade grain is fed to poultry, probably about 2 per cent of the crop. Wheat hay is an important forage, particularly in the Pacific Coast

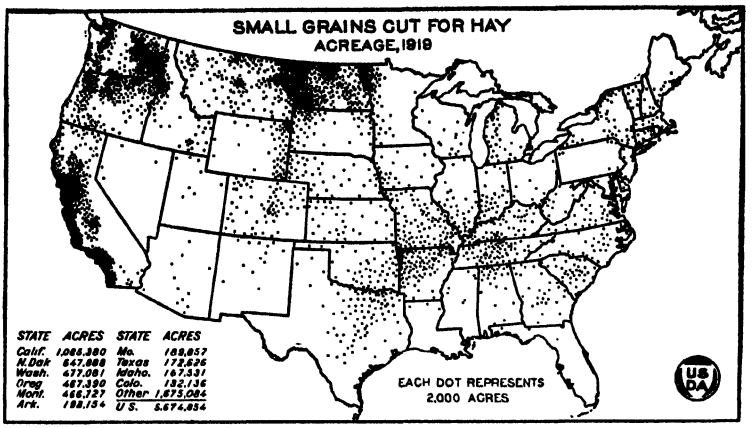


FIG. 34.—In regions where other hays are scarce a considerable acreage of the small grains is cut for hay, usually to provide roughage for work stock on the farm. Some grain hay finds its way to the city markets, however, principally on the Pacific coast. Of the 5,462,853 tons of grain hay produced in 1919, it is estimated that about 42 per cent was oat, 31 per cent wheat, 24 per cent barley, and 3 per cent rye. There was an unusually large acreage of small grains cut for hay in the northern Great Plains in 1919 on account of the failure of these crops to produce a profitable grain yield.

States, and in the northern Great Plains region also in 1919, owing to the drought (fig. 34). Wheat straw has low feeding value, and probably not more than 10 per cent is eaten by animals. Much of the straw is destroyed by burning. In Kansas and adjacent States much of the young fall wheat is pastured lightly in the winter. The value of this forage is discussed under pastures. Measured by the animal units that the various wheat products used for feed will support (Table 15), this crop ranks sixth in importance among the crops producing forage.

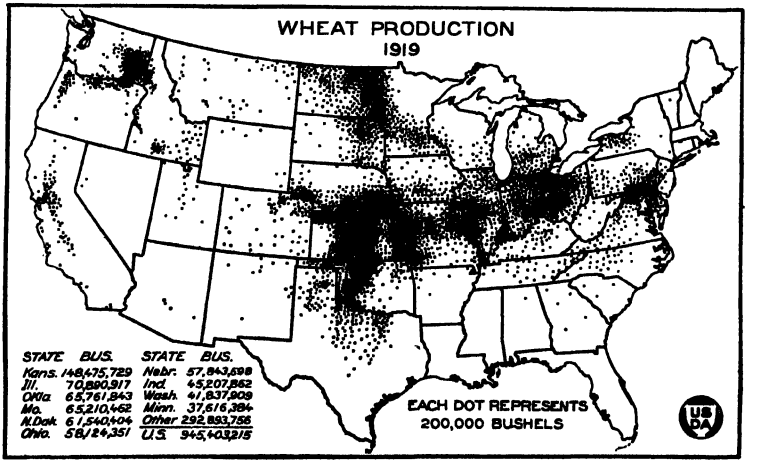


FIG. 35.—Wheat is, of course, most important as human food. However, the bran, middlings, and other by-products of the flour mills, the low-grade grain, the straw, the wheat cut for hay, and the fall pasturage of wheat fields in the winter wheat areas, altogether provide a generous contribution to our forage supply.

TABLE 15.—*Wheat: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	73,099	28,362	[1] 6,555	2.75	2,384
Hay	1,700	1,706	1,700	7.00	243
Straw	73,099	43,000	4,300	15.00	287
Total	[2] 74,799				2,914

[1] This quantity was estimated as indicated in the preceding text discussion.
[2] The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

There are four principal areas of wheat production in the United States: (1) The soft winter wheat area, extending from Maryland

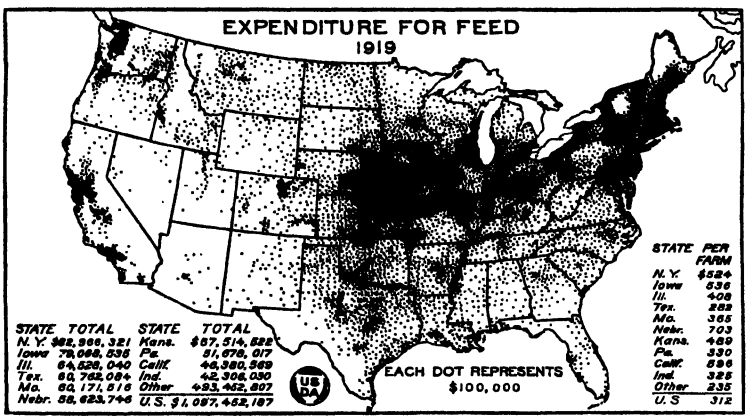


FIG. 36.—The expenditure for feed, as reported by the census, includes mill feed, mostly wheat bran and middlings, grain, hay, and other feed not raised on the farm. The expenditure is greatest in the hay and dairying region, especially the eastern portion, where the production of grain is deficient, and in the Corn Belt, where large quantities of bran and middlings are used and where corn is freely bought and sold by the farmers. Although the figures include much more than mill feeds, the map indicates in a general way the regions where the by-products from the milling of wheat are used for feed.

and Pennsylvania to Missouri; (2) the hard winter wheat area of Kansas and adjacent States; (3) the spring wheat area of the Dakotas, western Minnesota, and eastern Montana; and (4) the mixed winter and spring wheat area of Washington, Oregon, and California (fig. 35). Of the 612,000,000 bushels of wheat milled in 1919, over 450,000,000 bushels, or about three-fourths, were made into flour and mill feed in the Mississippi Valley, mostly in the upper and central portion. Statistics for the consumption of this mill feed are not available by States; but Figure 36 shows that the regions of heaviest expenditure for feed in 1919 were in the North Atlantic States and the Corn Belt.

Wild or Native Hay.

The wild hay crop is gradually becoming relatively less important, because the acreage has remained practically constant during the last decade while that of most other forage crops increased. The native grasses still contribute, however, an important part of our hay supply, ranking fourth among the hay crops and seventh in the list of all crops producing forage (Tables 8 and 12). From the days of the first settlements of America by the white man to the present time wild hay grasses have aided largely in the settlement of the country. They have made it possible for the pioneer to take his livestock with him as he has pushed the limits of settlement westward. The grasses and sedges of the tidal and other marshes of the Atlantic coast were of great value to the early colonists before

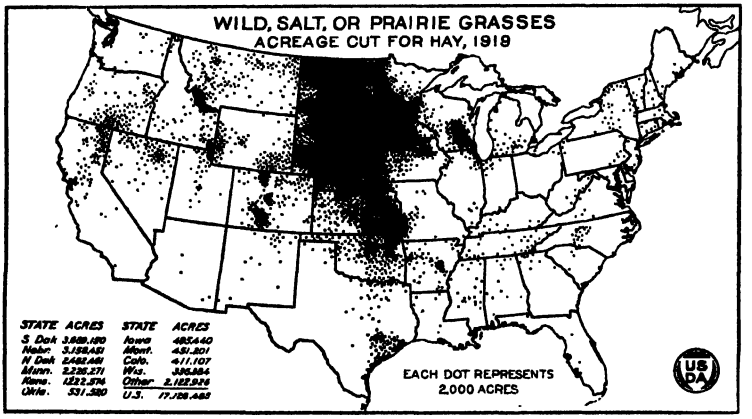


FIG. 37.—The importance of wild, salt, and prairie grasses for hay production will be appreciated when it is noted that they occupied in 1919 almost twice the acreage devoted to alfalfa and produced nearly as much hay. About three-fourths of the acreage of wild hay is found in the Dakotas, Nebraska, Minnesota, and Kansas. The value of these grasses as a forage resource of the northern Great Plains and spring wheat areas can scarcely be overestimated.

they could clear away the timber and grow tame forage. Now they are of relatively little importance from the forage standpoint, since more valuable hay can be produced from cultivated grasses.

At present the northern Great Plains region and contiguous portions of the spring wheat belt constitute the most important native hay area of the United States (fig. 37). South Dakota, Nebraska, North Dakota, Minnesota, Kansas, Oklahoma, and Iowa have more than three-fourths of the total acreage and produce more than two-thirds of the tonnage of the entire country. In this group of States native hay constitutes approximately 35 per cent of the entire hay crop.

Native or prairie hay is sold regularly on the markets of Kansas City, Minneapolis, Chicago, and St. Louis, where it sells for more than 75 per cent as much as timothy hay of corresponding grades. While in the aggregate a large tonnage of native hay finds its way to the city markets, by far the larger part of it is consumed on the farm. If it were not for the native hay grasses in the drier parts

of the Great Plains region and westward the livestock industry would be greatly limited, because of the scarcity of cured forage with which to feed the stock during winter.

The quality of native hay varies greatly. That produced in the eastern part of Oklahoma, Kansas, southern Nebraska, and in similar latitudes where the rainfall is relatively high, will scarcely more than maintain cattle and horses. Westward and northward the native hay is much more nutritious and valuable for feeding livestock through the long periods in the winter or other seasons when it is impossibl for the animals to subsist by grazing. Practically all the native hay of the Great Plains and westward is regarded as very valuable horse hay. It can be fed in unlimited quantities without causing digestive disturbances and is an excellent roughage for horses at hard work or those kept for driving.

In the eastern part of the large native-hay area extending from northern Oklahoma to the Canadian border and eastward into Minnesota and Wisconsin, the most important species of grasses are Bluejoint (*Calamagrostis canadensis*), Big bluestem (*Andropogon furcatus*), Little bluestem (*A. scoparius*), Indian grass (*Sorghastrum nutans*), and Switch-grass (*Panicum virgatum*). These species, with the exception of the first mentioned, are important as far as the western edge of the prairies; but from the 100th Meridian westward, Western wheat grass (*Agropyron occidentale* or *A. Smithii*), Slender wheat grass (*A. tenerum*), Side-oats grama (*Bouteloua curtipendula*), and other species of Bouteloua become increasingly important. In Montana, especially in the Milk River Valley, Western wheat grass is the most important species. In the southwestern part of the State this species and Bluejoint are the most important wild hay species. In the high mountain parks of Colorado, Wire grass (*Juncus balticus*) is an important hay plant. In northern Nevada, California, and southeastern Oregon the valuable wild-hay grasses include Bunch wheat grass (*Agropyron spicatum*), Nevada bluegrass (*Poa nevadensis*), Short-ligule bluegrass (*Poa brachyglossa*), and Beardless rye grass (*Elymus triticoides*). Over much of California the introduced and wide-spread wild oats produces large crops of valuable hay.

Sorghums.

The term sorghum, as here used, embraces the sorgos or sweet sorghums; the grain sorghums, such as kafir, milo, and feterita; and also broomcorn, which furnishes some forage after the brush has been harvested. A small acreage of sugar cane and Japanese cane is used as forage in the Gulf Coast States. Most of this is made into silage. In the census reports sugar cane was included with the sorghums harvested for forage, but the quantity thus used is relatively so small that it can be disregarded without serious error in the present broad consideration of forage production.

The sorghums, unlike corn, are not native on this continent. Most of the varieties now being grown in the United States originated in Africa. On account of their drought-resisting qualities they have become very important in the southern Great Plains—Kansas, Oklahoma, Texas, and the eastern portions of Colorado and New Mexico. The distribution of sorghum acreage in 1919, according to the census

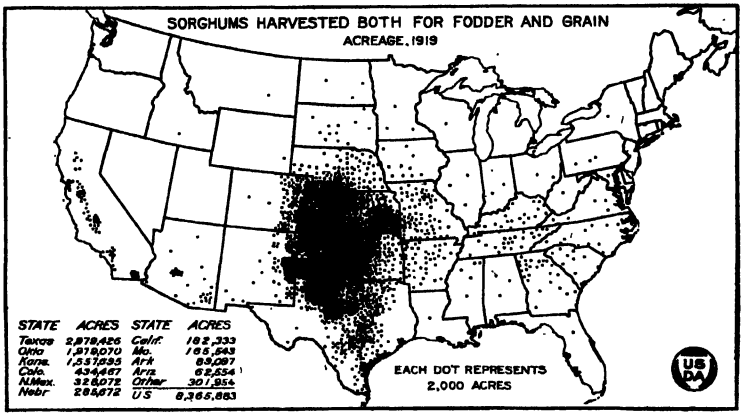


FIG. 38.—This map shows the combined acreage of all sorghums, except those grown for sirup production and broomcorn. It will be noted that the sorghum crop is confined chiefly to the southern Great Plains and the irrigated valleys of Arizona and California. The sorghums are very drought resistant and can be depended upon in the southern Great Plains to supply both fodder and grain to support the livestock industry.

data, is shown in Figure 38. That year there were over 9,000,000 acres devoted to sorghums, 482,043 acres of this being used for sirup and 337,806 acres broomcorn. This leaves a total of more than 8,000,000 acres devoted almost exclusively to the production of feed for livestock (fig. 38). The production in tons and the number of cattle which this acreage of sorghums would support for one year are shown in detail in Table 16.

HARVESTING SORGHUM FOR FODDER IN KANSAS.

FIG. 39.—In early days sorghum was harvested for fodder and silage almost wholly with a corn knife. Since the advent of the corn binder, sorghum can be quickly and economically tied in bundles, ready to shock or haul to the silo without hand labor. The acreage of the sorghums doubled from 1900 to 1910 and almost doubled again between 1910 and 1920.

The importance of this introduced crop is even greater than it appears, because of the fact that the sorghums thrive in a region of heavy livestock production where corn and other crops used as forage are uncertain, and thus provide an insurance against absolute failure of feed in years of extreme drought. About 90 per cent of the coarse forage in the southern Great Plains is derived from the sorghums, and they rank eighth in the list of forage-producing crops for the entire United States.

TABLE 16.—*Sorghums: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.[1]	Production.[2]	Estimated quantity eaten by livestock.[3]	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	3,619	2,018	1,997	2.85	701
Fodder	4,747	7,913	5,539	8.00	692
Stover	3,957	4,946	2,473	10.00	247
Silage	79	398	398	16.00	25
For sirup	482	1,644	.....	.....	.....
Total	9,265	.....	.....	.....	1,665

[1] The acreage of grain is included also in the stover acreage; hence it is omitted from the total, which represents the actual acreage of sorghums including broomcorn.

[2] The production figures of grain and fodder are taken from the 1919 census. The stover production is estimated by applying to the grain sorghum acreage plus the broomcorn acreage a theoretical yield of 1½ tons per acre. The quantity of silage is based on the best information available regarding the percentage of the total silage that is made from sorghums in States where sorghum is an important crop.

[3] It is estimated that all the grain not used for seed, all the silage, 70 per cent of the fodder, and 50 per cent of the stover are eaten by animals.

Barley.

Most of the barley in the United States is grown in the hay and dairying region, notably in the spring wheat section, and in the South

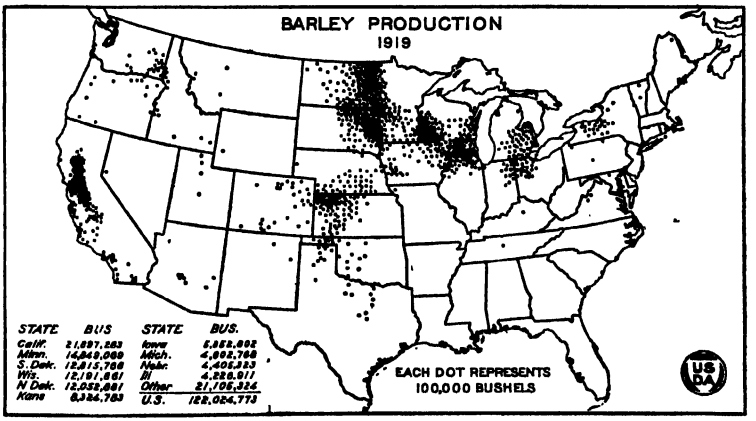


FIG. 40.—Barley ranks ninth among the forage-producing crops. Its value as a substitute for corn in the feeding of farm animals is becoming more generally recognized, especially in sections where corn is not well adapted to climatic conditions. The principal centers of production are the western portion of the hay and dairying region and the South Pacific region. It should be noted that a dot on this map represents only half as many bushels as on the maps of oat and wheat production (figs. 27 and 35) and one-third as much as on the map of corn production (fig. 13).

Pacific region, where the climate is also cool during the winter season when the barley is growing (fig. 40). In California and in North Dakota and northwestern Minnesota barley is in large part a substitute for corn as a concentrated feed.

Of the grain produced by barley it is estimated that approximately 52 per cent is fed as grain to livestock. The report of the Commissioner of Internal Revenue shows that in 1919 about 23,375,000 bushels of barley, or 19 per cent of the crop was used in brewing and distilling. There remained as a by-product about 208,000 tons of dry brewers' grains, and 23,000 tons of malt sprouts, which jointly have a feeding value equal to about 7,700,000 bushels of grain. Barley straw is more nutritious than that of any other small grain except oats and rice, and about one-fourth of it, probably, is consumed by livestock. In the West, particularly in California, much barley is cut green for hay. In all it is estimated that the barley crop of 1919 supported the equivalent of 819,000 animal units (Table 17). This places it ninth in rank among the forage-producing crops.

TABLE 17.—*Barley: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	6,473	2,929	1,519	2.65	573
Hay	1,500	1,313	1,313	7.00	188
Straw	6,473	3,000	750	13.00	58
Total	[1] 7,973				819

[1] The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

Miscellaneous Tame Hays.

The census item, "Other tame or cultivated grasses cut for hay," includes a number of different grasses. In Table 18 an effort has been made, on the basis of field knowledge, to estimate the acreage and yield of the principal grasses included. Both acreage and production of these miscellaneous tame grasses in the United States have increased about 50 per cent, since 1909. The geographic distribution of this acreage in the census year, 1919, is shown in Figure 41. The combined production of this group of grasses was sufficient to support 800,000 animal units for one year.

TABLE 18.—*Miscellaneous tame grasses cut for hay: Estimated acreage, production, and aggregate feed value in 1919.*[1]

Kind of grass.	Estimated acreage.	Estimated production.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands	*Thousands of tons.*	*Tons.*	*Thousands.*
Redtop	1,000	800	8	100
Orchard grass	800	800	8	100
Millets	750	1,000	8	125
Kentucky bluegrass	650	400	8	50
Sudan grass	600	1,050	8	131
Crab grass	600	500	8	63
Bermuda grass	400	400	8	50
Johnson grass	400	500	8	62
Miscellaneous	853	954	8	119
Total	6,056	6,404		800

[1] These estimates of the acreage and production of the different tame grasses, which were included by the census under the one item, "Other tame or cultivated grasses cut for hay," were made by C. V. Piper and others in the Office of Forage Crop Investigations. They are proposed only as tentative estimates to indicate the probable importance, as hay plants, of these miscellaneous grasses.

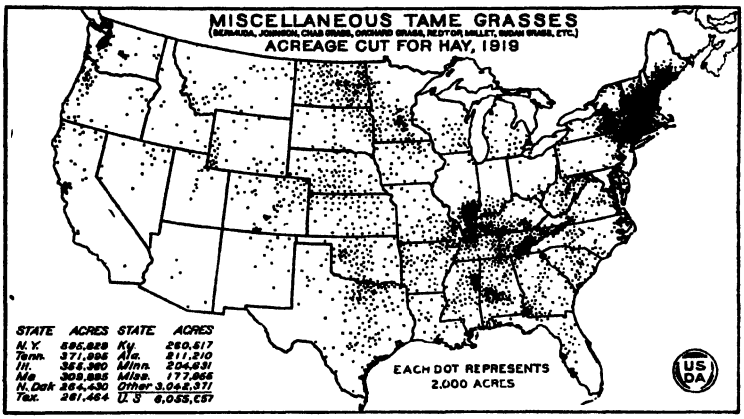


FIG. 41.—The miscellaneous tame grasses cut for hay, which include orchard grass, redtop, Kentucky blue grass, Bermuda grass, Johnson grass, Sudan grass, millet, brome grass, and others, cover an acreage only a little more than half as large as the acreage devoted to timothy alone. Nevertheless, these grasses are important because they provide hay in localities where other hay crops, such as timothy, clover, and alfalfa, do not thrive.

Cotton.

Cotton is primarily a fiber crop; but the seed, a by-product, is an important source of oil, cake, and meal. The cake and meal are valued highly as concentrates in feeding livestock. The production of cottonseed in 1919, according to the Bureau of Census, was 5,074,000 tons, of which 4,013,000 tons were crushed during the year ended July 31, 1920. This operation resulted in the production of 161,529,000 gallons of oil, used mostly for human food, of 1,817,000 tons of cake and meal, and of 1,143,000 tons of hulls. About 90 per cent of the hulls, it is estimated, was fed to livestock. There were

exported 225,000 tons of cake and meal, leaving a balance of 1,592,000 tons in this country. It is estimated that 986,000 tons of the cake and meal which remained in the United States were used as feed and 606,000 tons as fertilizer. The amount fed, supplemented by the hulls, would theoretically support about 556,000 animal units for one year, placing cotton eleventh among the crops producing feed for livestock.

Although there has been ample justification heretofore to use cottonseed meal as fertilizer, as it gave different results from chemicals carrying nitrogen, it seems in the light of recent investigations that fertilizers containing magnesium will at least in certain cases give the same results as cottonseed meal. If this proves true, it is better economy to use the cottonseed meal as feed.

Rye.

About 41,530,961 bushels of rye, or 54.7 per cent of the 1919 crop, were exported and 5,458,245 bushels were fed as grain to livestock. According to the Census of Manufacturers, 17,693,250 bushels were milled in the United States. Of the rye milled 51 per cent became flour and 49 per cent mill feeds and screenings, both of which are used mostly as feed for animals. Rye straw is very poor forage and it is roughly estimated that only 5 per cent was used for feed. It is estimated that in 1919 about 175,000 acres of rye were cut green for hay. The pasturage afforded by fields of young rye is an important item not considered in this place. Altogether the harvested forage obtained from rye in 1919 was capable, theoretically, of supporting 230,000 animal units for a year, as shown in Table 19.

TABLE 19.—*Rye: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	7,679	2,128	510	2.65	192
Hay	175	150	150	7.00	21
Straw	7,679	5,000	250	15.00	17
Total	[1] 7,854				230

[1] The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

Sugar Beets.

In localities where the sugar beet is grown, the pulp from sugar factories forms an important part of the feed for livestock. There were 175,000 tons of dried pulp and 2,550,000 tons of the wet pulp available for feeding animals in 1919. Experience has shown the dry pulp to be about equal to corn, oats, or the other cereal grains in feeding value. The wet pulp is similar in feeding value to other root crops and less valuable than silage. The sugar-beet crop

as a whole supplied sufficient feed in 1919 to support about 144,000 units for one year, ranking sixteenth among the crops which produce forage.

Flax.

Flax is important chiefly as a source of oil and fiber, but the meal obtained as a by-product of the oil mills is a highly prized concentrate or stock feed. The production of flaxseed in 1919 was 6,653,200 bushels, and in addition there were imported 14,019,000 bushels more than were exported. There were milled in the United States 631,458 tons, resulting in the production of 409,141 tons of cake and meal. Of this last item 168,168 tons were exported during the fiscal year ended June 30, 1920, and approximately 241,000 tons fed in the United States. It is apparent that about three-fifths of the total linseed meal or cake manufactured in the United States is fed here. The general situation is therefore very similar to that of cottonseed meal and cake, so far as feed is concerned, but no linseed meal is used as fertilizer. Apparently the large exports of these two oil meals are due to the relatively low expense of their transportation and handling.

The 241,000 tons of linseed meal, on account of its high feeding value, is sufficient to support approximately 115,000 animal units for one year. Only a small part of the flax straw is fed to animals, so that the crop as a whole is capable of supporting only about 119,000 animal units.

Mixed Grain.

"Mixed crops," according to the census, were produced in 1919 on 577,078 acres. The principal acreages were in Minnesota, 193,864; New York, 128,477; Wisconsin, 95,302; Iowa, 45,573; Michigan, 19,879; Nebraska, 16,230; and Oregon 15,591. In Minnesota and Wisconsin the mixtures were largely wheat and oats and a little oats and peas, also wheat and flax. About 16 per cent of these mixed grains was separated after harvest and sold. In New York, Michigan, Nebraska, and Iowa the mixture was mainly oats and barley, and the mixed grain was used almost wholly as feed. In Oregon the mixtures were oats and vetch and wheat and vetch. The vetch seed is either separated or the mixture used for new seedings. It is estimated that about 90 per cent of the total of mixed grains is used as feed and that this is sufficient to support about 102,000 animal units for one year.

The straw from these mixed crops is roughly estimated at 508,000 tons and the quantity eaten at 30 per cent, or 152,000 tons. This straw would support an additional 14,000 animal units, making a total feed value of 116,000 animal units for one year.

Annual Legumes.

The annual legumes used in part for feed include cowpeas, field or Canada peas, soybeans, field beans, peanuts, vetch, and velvet beans. The refuse of pea canneries is also used for feed. Most of these crops are grown both for hay and for grain and large quan-

tities are pastured off. The straw remaining after threshing the grain is also a valuable forage. The census reports contain statistics of soybeans, other beans, Canada peas, cowpeas, and peanuts, harvested for seed, but furnish statistics only of the total acreage of animal legumes cut for hay (fig. 42). This total acreage cut for hay, as reported by the census,[18] has been proportioned among the

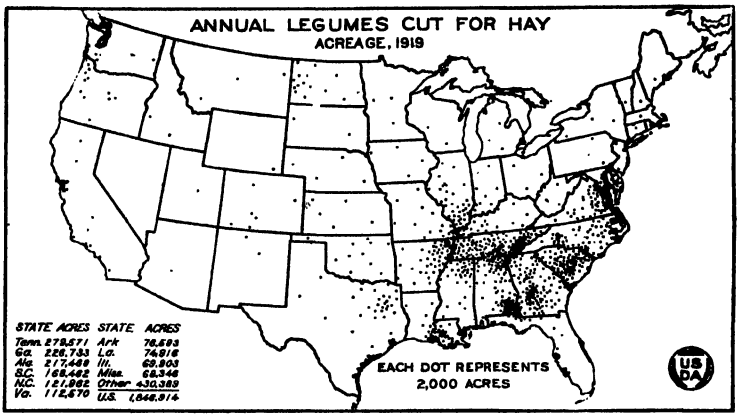


FIG. 42.—The annual legumes included in the acreage shown on the above map are cowpeas, soybeans, field peas, peanuts, and vetches. These crops are most important in the Southeastern States. That portion of the crop cut for hay represents only a small part of the total acreage of these legumes. Large acreages of cowpeas, soybeans, and vetches are plowed under as green manure or harvested for seed, while the greater part of the peanut crop is either "hogged off" or the nuts gathered for use as human food.

different kinds, according to the best information available. Similarly estimates have been made of the acreage of the different annual legumes "hogged off." These estimates are given in Table 20. The acreage of soybeans has increased greatly since 1919, particularly in the Corn Belt. Estimates of the acreage and production of certain annual legumes in 1922 and 1923 are given in the statistical appendix of this volume.

Cowpeas.

The cowpea is the best known and most extensively grown leguminous plant in the Southern States, but during the past few years the acreage has decreased to some extent. In many parts of the Corn Belt and Southern States soybeans have almost entirely replaced the cowpea, and the introduction of velvet beans has also tended to reduce the acreage of cowpeas in the Gulf States. The cowpea is grown principally for soil improvement, hay, and pasturage, necessitating the use of a large part of the seed for planting purposes. The seed, other than that required for the next year's

[18] The actual acreage of these legumes is very difficult to determine, owing to the extent to which they are interplanted with corn and other crops. The acreage reported by the Census is much less than that estimated by the Department of Agriculture, especially for velvet beans. (See Farmers' Bulletin 1276, p. 9, and for soybeans and cowpeas the Monthly Crop Reporter for December, 1920.)

TABLE 20.—*Annual legumes: Acreage, production, estimated quantity eaten by livestock, and aggregate feed value in 1919.*

Crop and kind of forage.	Acreage (partly estimated).	Production (partly estimated).	Production less seed and net exports (partly estimated).	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Cowpeas:						
Grain	633	91	10	5	2.85	2
Straw	633	316	316	237	8.00	30
Hay	1,100	990	990	990	5.00	198
Pastured off	1,000	800	800	800	5.00	160
Total	[1] 2,733					390
Peanuts:						
Grain	1,125	302	367	18	2.10	9
Meal and cake		82	82	62	2.10	30
Straw	1,125	563	563	422	7.00	60
Hay	307	230	230	230	5.00	46
Pastured off	1,125	750	750	750	5.00	150
Total	[1] 2,557					295
Velvet beans:						
Grain	150	36	15	15	2.75	5
Pastured off	800	800	800	800	5.00	160
Hay	193	193	193	193	5.00	39
Total	1,143					204
Soybeans:						
Grain	113	33	10	8	2.65	3
Cake (import)			8	8	2.75	3
Straw	113	56	56	42	8.00	5
Hay	287	287	287	287	5.00	57
Pastured off	174	160	160	160	5.00	32
Total	[1] 574					100
Field beans:						
Grain	1,162	422	440	44	2.65	17
Straw	1,162	581	581	523	8.00	65
Hay	64	92	92	92	5.00	18
Total	[1] 1,226					100
Field peas:						
Grain	233	81	65	52	2.85	18
Straw	233	116	116	87	8.00	11
Hay	59	69	69	69	5.00	14
Total	[1] 292					13
Canning peas:						
Silage	104	260	260	195	16.00	12
Vetch:						
Hay	30	45	45	14	5.00	9
Total (all above legumes)	8,659					1,153

[1] The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

seeding, is used extensively as human food in the Southern States. In 1919 the various products of the cowpea crop used to feed livestock it is estimated were sufficient to support 390,000 animal units for one year.

DAIRY CATTLE PASTURING COWPEAS IN GEORGIA.

FIG. 43.—A field of cowpeas planted for green-manure purposes in a pecan orchard in Florida. After being pastured off, the residue is plowed under to enrich the soil. Soybeans, velvet beans, and peanuts are likewise pastured off in this manner, mostly by cattle or hogs.

Peanuts.

Peanuts have much the same climatic range as cowpeas. They are used quite largely for human food in the form of oil, confections, and peanut butter, or merely roasted. The crop is, however, very important from a forage standpoint. It is estimated that over 1,000,000 acres were "hogged off" in 1919, and approximately 300,000 acres cut for hay. Besides these two items there were about 82,000 tons of peanut meal produced as a by-product of the oil mills. This meal is esteemed very highly as a concentrated feed for dairy cows. It is estimated that the crop, including the part "hogged off," will furnish sufficient feed to support 295,000 animal units for one year. More than 95 per cent of the peanut crop is produced in the Southeastern States, including Virginia.

Velvet Beans.

The relatively recent development of early maturing varieties of velvet beans has done much to extend the region in which this crop is grown. The States leading in velvet-bean acreage in 1923 were Georgia, Alabama, Florida, South Carolina, Mississippi, Louisiana, Texas, and North Carolina, in the order named. According to the estimates of the Department of Agriculture the total for these eight States was 2,315,000 acres. The velvet bean is interplanted in fields of corn and Japanese cane very extensively in the above-named

States, and the crop "hogged off" when the beans are ripe. Probably 75 per cent of the crop is used for pasture and green manure. No other legume appears so well adapted to the climatic conditions prevailing in the Gulf States. It produces heavy crops of seed of high feeding value, which are particularly free from insect injury and but little affected by the moisture and heat that make it so difficult to store seed grains in the Southern States. An estimate, based on census data, indicates that the velvet bean crop in 1919 was sufficient to support 204,000 animal units for one year.

Soybeans.

The large recent increase in the acreage of the soybean crop (see statistical appendix) seems to indicate that it will become in the near future a farm crop of much greater importance in the United States. Although used mainly as a forage crop, for which purpose the acreage has grown steadily, there has been a considerable increase in the acreage for seed production, especially in the Corn Belt States. In some parts of this region the soybean has proved a more profitable crop than oats, which it is replacing in many rotations. In the central Corn Belt mills are now being erected and others equipped with machinery for extracting oil from soybeans. It seems likely that an appreciable part of the crop will in the future be used in this way to produce oil for human food and industrial purposes. The by-product, oil meal, will be used mostly as stock feed. It has been estimated that the different products of the soybean crop were sufficient in 1919 to provide an annual ration for 100,000 animal units.

Field Beans.

The straw is the most important part of the field-bean crop used for forage, but the cull beans, estimated at 10 per cent of the crop, are also used for feed. The bean straw in the New York and Michigan districts is largely used for feeding sheep. The total contribution of the crop to the sustenance of farm animals is estimated as sufficient to support 100,000 animal units for one year.

Field Peas.

The field pea can be grown successfully only in a cool climate, and its utilization as a summer crop is confined principally to the States bordering on the Great Lakes, the Pacific Northwest, and to high altitudes in the Rocky Mountain region. It is grown to a limited extent as a green manure crop in California and the Gulf States. No accurate estimate of the field-pea acreage is possible. It appears, however, that there were in 1919 about 233,000 acres harvested for seed and about one-fourth that much cut for hay. When grown for hay purposes, the field pea is usually seeded in mixture with some small grain. It is estimated that field peas furnished sufficient forage to support 43,000 animal units in 1919, not taking into consideration that small portion of the crop pastured off.

Vetch.

There are several kinds of vetches, the most important of which are the common or spring vetch and the hairy vetch. The vetches are

ordinarily seeded with some small grain, such as rye or oats, and are cut for hay, plowed under for green manure, or harvested for seed. They are grown chiefly on the Pacific coast, around the Great Lakes and in the Southeastern States. A much larger acreage of vetch would be sown in the United States if the seed were less expensive. It is estimated that approximately 30,000 acres of vetch are cut for hay annually, and that the product of this acreage will support 9,000 animal units for one year.

Rice.

Rice is essentially a food crop and is only of minor importance as a forage producer. Very little of the crop except parts of the mill waste, known in the trade as rice bran and rice polish, is fed to animals. The census of manufacturers reported 71,492 tons of rice bran and 18,099 tons of rice polish produced in 1919.

Feeding experiments in Texas, Arkansas, and Louisiana indicate that these rice products can be profitably fed in combination with other feeds, but can not be successfully employed as the sole concentrate in a ration. Very often commercial rice bran or polish contains as much as 25 per cent of "grits" or broken grains. The contribution of the rice crop toward the support of our animal population in 1919 is shown in Table 21.

TABLE 21.—*Rice: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.*

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoretically support for one year.
	Thousands.	*Thousands of tons.*	*Thousands of tons.*	*Tons.*	*Thousands.*
Grain	911	795	90	2.85	32
Straw	911	911	90	11.00	8
Total	[1] 911				40

[1] The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

Potatoes.

In years of low prices large quantities of potatoes are fed to livestock in the United States, but normally only cull potatoes are so used. In western Europe, on the other hand, potatoes are an important forage. Although the proportion fed to livestock in the United States is small, estimated to average about 10 per cent, the large quantity produced results in an estimated feed value sufficient to support 40,000 animal units for one year.

Sweet Potatoes.

In the Southern States sweet potatoes are a much more important crop than potatoes. Although they are grown primarily for human food, it is estimated that about 20 per cent are fed to livestock. Their feeding value is somewhat higher than that of potatoes, so that the proportion of the crop fed is estimated to be capable of supporting 28,000 animal units for one year.

Emmer and Spelt.

The total acreage of emmer and spelt reported by the Bureau of Census for 1919 was 166,829 and the production was 2,607,868 bushels. Practically all the grain, except that required for seeding, and perhaps 10 per cent of the straw, were fed to livestock. The crop was sufficient to support 25,000 animal units one year, not taking the straw into consideration. Most of the emmer and spelt is grown in the Great Plains region and the Lake States.

Root Crops.

Root crops for forage ordinarily include beets or mangels, rutabagas, turnips, carrots, artichokes, and parsnips. They are grown extensively for forage in northern Europe and eastern Canada, but are of little importance as forage in the United States. The total area of root crops grown for forage in 1919 was only 88,333 acres and the production 598,945 tons. This would be sufficient to support about 19,000 animal units for one year. The low place which roots occupy in our long list of forage crops is due partly to the lack of extensive areas with moist, cool summers, such as prevail in northern Europe, and in part to the large amount of hand labor required in growing and harvesting.

Pasturage.[14]

The area of land in the United States used for grazing, excluding crop land pastured part of the year, is about 1,055,000,000 acres, or 55 per cent of the total land area of the country. This is over four times the area of crops used for feed, but the total sustenance supplied by pasturage is somewhat less than that produced by crops. The low productiveness of our pasture land compared with crop land is owing in part to the fact that over half is arid grassland and desert shrub land too dry for crop production; over one-fifth is forest and cut-over land, the use of which for pasture is usually less important than its use for the production of wood; and more than one-tenth is hilly upland in humid regions, mostly too rough and stony for the production of crops (fig. 44). Only a little over one-tenth of the total area is improved land in rotation pasture or in permanent pasture which could be used for crops.

This low productiveness is also due to the neglect of pastures which has characterized American agriculture since pioneer times. Pasture was cheap along the frontier, and was especially abundant on the prairies and plains, in which areas most of our agricultural expansion has occurred during recent decades. This low valuation of pastures has persisted among farmers. Recent studies show that the gains made by cattle on pasture cost, in general, only one-half to one-fourth as much as those made when the animals are fed crops (page 412), owing in large part to the low rentals charged for pasturage.

The neglect of the pastures by American farmers is further shown by comparing the carrying capacity of improved pastures in the humid northeastern portion of the United States with that of the

[14] *Pasturage* includes all herbaceous feed gathered directly by domestic animals. When the plants are shrubs or trees the pasturage is called "browse." Feed consisting of acorns and other nuts that have fallen from forest trees is termed "mast." This term is also extended to include the berries of palm trees and the seeds of pine trees.

pastures in northwestern Europe. Although the average acre-yields of the crops in the United Kingdom, France, and Germany, considered jointly, are only about a half greater than those in the United States, the carrying capacities of the pastures are, apparently, fully double the capacities of comparable kinds in the United States.[15]

Pastures in the United States have not received from the agricultural scientists the attention they deserve. One would expect that a method of land utilization which contributes nearly as much to the sustenance of our livestock as all the crops combined would have been made the subject of much study and investigation. Although some good work has been done, the scientific literature relating to pastures is small compared with that concerning crops.

ESTIMATED AREAS OF HUMID AND ARID GRASSLAND AND FOREST PASTURES, IN FARMS AND NOT IN FARMS, UNITED STATES, 1919.

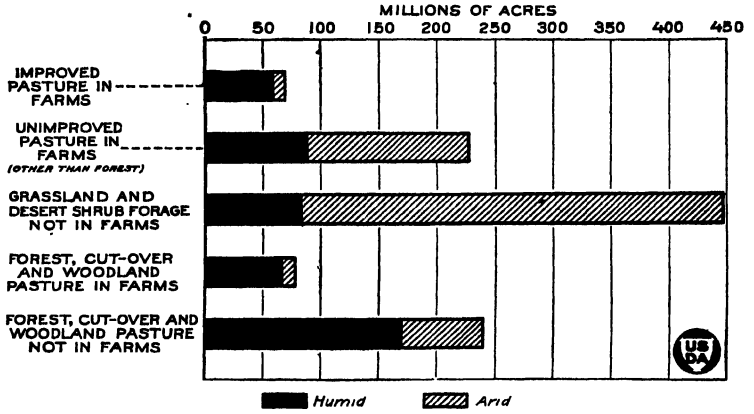


FIG. 44.—Although improved pasture in farms occupies a smaller acreage than any other class of pasture shown in the graph, it carries about 25,000,000 animal units during the 6-months season, or nearly one-fourth of the total animal units in the United States (see Table 22). Unimproved pasture in farms carries another quarter of the livestock for a somewhat longer season on the average. Grassland and semi-desert shrub land not in farms includes a larger acreage than that of both improved and unimproved pasture in farms. This class of pastures, however, carries a much smaller number of animal units than either of the above classes of farm pasture; but it is grazed, in general, during a longer season. The forest and cut-over lands used for grazing contribute only about one-tenth of the sustenance supplied by all pastures.

Relegated largely to land too poor or too rough to till, neglected commonly by the farmer, often abused by the grazier, ignored by most investigators, our permanent pastures, both tame and wild, still furnish nearly four-tenths and our rotation and temporary pastures over one-tenth of all the feed consumed by domestic animals. Pasture is the key to the profitable utilization of millions of acres of semiwaste land now lying idle or unproductive. "Better pastures" should be made the keynote in the promotion of American agricultural progress.

Probably less than 10 per cent of the total pasture area, or about 100,000,000 acres, is suitable for crops in its present condition and, therefore, comparable with crop land in productivity.[16] The carry-

[15] See next article, The Utilization of the Land for Crops, Pastures, and Forests, p. 469.

[16] See "The Utilization of Our Land for Crops, Pasture, and Forest," p. 427.

ing capacity of this 100,000,000 acres is between 3 and 4 acres per animal unit for a 6-months' season, whereas it required only 2⅓ acres of crops to support an animal unit for six months in 1919. The pasture land that may be used for crops often occupies the less productive fields. In general, the amount of feed per acre produced by pasture is somewhat less than that produced by crop land of the same quality. This conclusion is supported by the figures secured in farm management surveys in Pennsylvania, New York, Ohio, Minnesota, and North Dakota. The labor required for the maintenance of pasture is, of course, very much less than that required for the production of crops.

Area and Carrying Capacity of Certain Classes of Grazing Land.

Grazing conditions vary according to the type of vegetative covering and its use. Open grasslands used exclusively for pasture normally have a higher carrying capacity than forest areas, where

PASTURE AND RANGE LAND IN THE UNITED STATES CLASSIFIED ACCORDING TO OWNERSHIP, 1919.

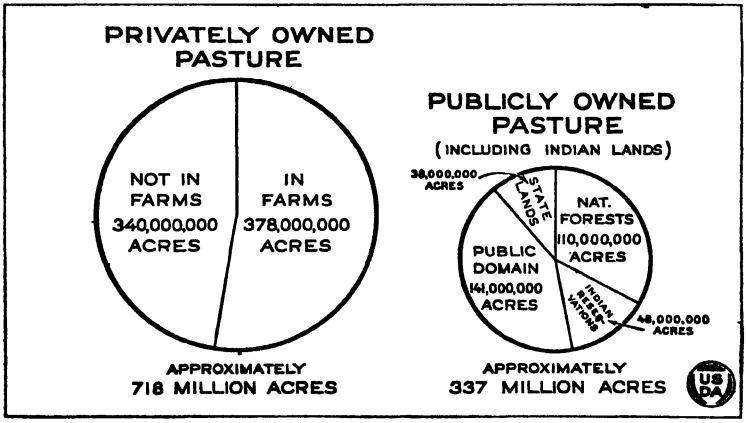


FIG. 45.—Over two-thirds of the land used for grazing is privately owned. Of the privately owned grazing land slightly over half is in farms. The privately owned land not in farms includes a vast area in the West, belonging to railroad and lumber companies and to large livestock producers, and a smaller area in the East of forest and cut-over land used for grazing, belonging to lumber companies and individuals. Over 40 per cent of the publicly owned or administered grazing land is in the public domain and 30 per cent more is in the national forests. The Indian lands are not publicly owned, but they are administered by a Government agency.

the trees reduce the growth of forage plants. They also furnish more grazing than crop lands pastured in the fall after the crop has been harvested. Each kind of pasture varies according to the amount of rainfall, the length of growing season, and the soil conditions. For these reasons it has been helpful in estimating the amount of livestock the various types of land will support to classify the grazing lands into four general groups: (1) Humid grassland, (2) semiarid and arid grazing land, (3) forest and cut-over pasture land, and (4) temporary pastures. These classes in turn have been subdivided into various groups based partly on their ownership and partly on their productivity (Table 22).

RELATIVE AREAS OF THE PRINCIPAL CLASSES OF PASTURE, IN FARMS AND NOT IN FARMS, UNITED STATES, 1919.

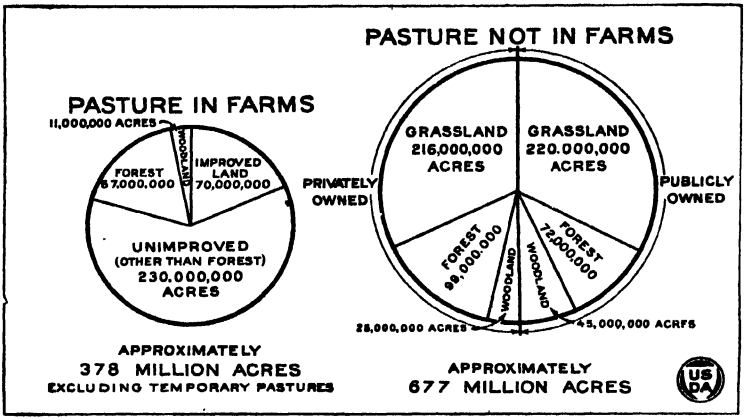


FIG. 46.—Although pasture land in farms includes only 36 per cent of the total grazing land of the United States, it carries 60 per cent of the total animal units grazed (excluding temporary pasture). Improved pasture is the most productive. It includes only 7 per cent of the total pasture area (in farms and not in farms), but contributes 25 per cent of the total sustenance obtained by grazing. Pasture not in farms is almost equally divided between publicly owned and privately owned land. Nearly two-thirds of each kind is grassland and desert shrub land and one-third is forest and woodland.

The area of privately owned grazing land is more than double that of publicly owned (fig. 45), and the number of animal units the privately owned pastures would maintain for one year is seven-eighths of the total for all pasture land. Nearly half the privately owned pasture land is not in farms, consequently the area of pasture not in farms is much greater than that in farms (fig. 46). The average carrying capacity per acre of the pasture land in farms, however, is nearly double that of the pasture not in farms. The two principal

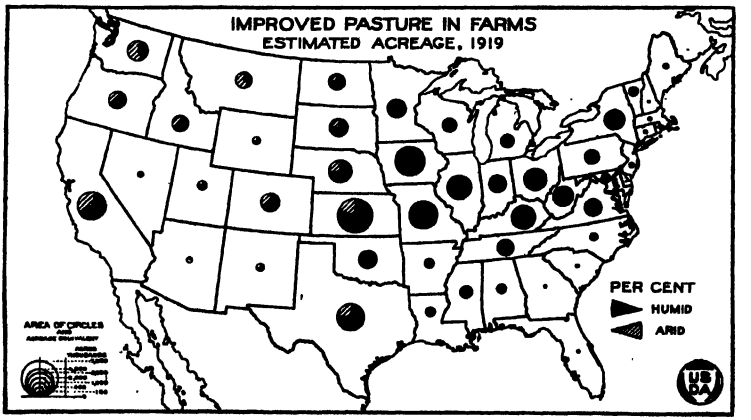


FIG. 47.—The Corn Belt and the Great Plains States contain the largest areas of improved pasture. In the Western States a considerable amount of arid and semiarid pasture which has been fenced has been included evidently in improved land. The proportion of this arid pasture, as shown on the map, is only a rough estimate. This map and Figure 48 are based on tabulations of 1909 census returns, altered to allow for changes since, as indicated by tabulations now in progress of the pasture returns of the 1920 census.

classes of pasture land in farms are improved and unimproved. The distribution by States of these two kinds of pasture is shown in Figures 47 and 48. The improved pasture, although it includes only about one-fifth of the pasture land in farms, contributes nearly half the sustenance supplied by farm pastures.

TABLE 22.—*Animal units carried by pasture in the United States.*[1]

[Estimated number in the year 1919.]

	Acres.	Acres per animal unit and length of season.	Number of animal units carried.	
			Season.	Year long equivalent.
Humid grassland:	*Thousands.*		*Thousands.*	*Thousands.*
Improved in farms	60,000	2½ for 6 months	24,000	12,000
Unimproved in farms—East	73,000	5 for 6 months	14,600	7,300
Unimproved in farms—West	15,000	10 for 9 months	1,500	1,125
Privately owned not in farms	70,000	10 for 9 months	7,000	5,250
National forest (alpine)	2,000	6 for 3 months	333	83
Indian reservations	3,000	8 for 9 months	375	281
Other publicly owned	8,000	10 for 9 months	800	600
Total	231,000		48,608	26,639
Semiarid and arid grazing land:[2]				
Grassland and dessert shrub—				
Improved in farms	10,000	10 for 6 months	1,000	500
Unimproved in farms	142,000	15 for 9 months	9,466	7,100
Privately owned not in farms	146,000	20 for 9 months	7,300	5,475
National forests	14,000	18 for 6 months	778	389
Indian reservations	38,000	38 for year long	1,000	1,000
Other publicly owned	27,000	27 for 8 months	1,000	667
Public domain (excluding next item and woodland)	116,000	55 for 6 months	2,109	1,054
Mohave-Gila Desert	13,000	55 for 2 months	236	39
Pinon-juniper and chaparral woodland (including 30,000,000 acres in national forests[2])	81,000	50 for 9 months	1,620	1,215
Total	587,000		24,509	17,439
Forest and cut-over land:[4]				
In farms	66,400	20 for 6 months	3,320	1,660
Privately owned not in farms	98,000	25 for 6 months	3,920	1,960
National forests	65,000	24 for 5½ months	2,706	1,241
Indian reservations	5,600	24 for 6 months	233	117
State forests	2,000	25 for 6 months	80	40
Total	237,000		10,261	5,018
Temporary crop land pastures:				
Hay aftermath	24,000	3 for 1½ months	8,000	1,000
Stubble fields[5]	45,000	5 for 2 months	9,000	1,500
Winter grain fields	8,000	5 for 3 months	1,600	400
Total	77,000		18,600	2,900
Total pasture	1,132,000			[6] 51,996

[1] These estimates, which are subject to change, are based on 1920 and 1910 census statistics; data supplied by the Forest Service, Indian Office, Land Office, and other Federal bureaus; reports of various State commissions; and on correspondence with State officials and others.

[2] It is estimated that at present about 57,000,000 acres of desert are too dry for grazing, but with the development of wells and tanks this area may ultimately be reduced to about 30,000,000 acres. There are also about 20,000,000 acres, mostly in the West, of rocky peaks and rock out-crops unusable for pasture.

[3] The remaining 51,000,000 acres of pinon-juniper and chaparral used for grazing are located in Indian reservations, the public domain, and privately owned land in farms and not in farms. These items, as given in the table, have been correspondingly reduced.

[4] Of the forest, cut-over, and burned-over land, it is estimated 246,000,000 acres are not pastured.

[5] Does not include corn fields pastured off, nor corn stalks grazed, which have been included under crops. See Table 13.

[6] The forage supplied by pasture is, therefore, almost equal to that supplied by all the crops (Table 12). In order that responsibility may be placed for these basic estimates, it may be noted that the rations of the various crops and crop products, as measured in tons, required (theoretically) to support an animal unit for one year, were supplied by Mr. Sheets and Mr. Semple, that the resulting tables of feeding value of the crops (Tables 6 to 21) were prepared by Miss Bradshaw under the joint direction of Mr. Vinall and Mr. Baker, and that the estimates of the acreage and carrying capacity of the pastures and range lands (Table 22 above) were prepared by Mr. Baker.

Although the humid grassland pastures include only about one-fifth of the total grazing area, the amount of forage supplied by them is more than half the total for all pasture and range. On the other hand, the arid and semiarid grazing lands, although including

over half the total pasture and range area, supply only about one-third of the total feed; and the forest and cut-over lands used for grazing, which include over one-fifth of the total grazing area, contribute only one-tenth of the total feed. Temporary crop-land pastures, the least important of the four major classes, are none the less of great significance; and cost of production studies (page 410) suggest that the estimates in Table 22 of the extent to which hay and grain fields are used for pasture in the fall and winter are probably too small.

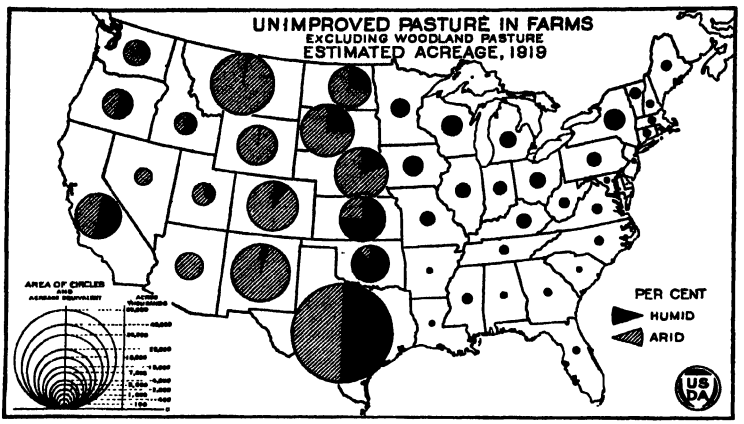


FIG. 48.—The Great Plains and Rocky Mountain States contain most of the unimproved pasture in farms. Much of this pasture in the Great Plains, Rocky Mountain, and Arid Interior regions is arid or semiarid. In the East it is mostly upland pastures, often hilly and stony. In the Lake States and along the North Pacific coast it is largely stump land and poorly drained land used for pasture. The carrying capacity per acre of the humid unimproved pasture in the East averages about three times that of arid unimproved pasture in the West.

Terms Relating to Pastures.

The preceding classification of grazing land was necessarily determined in large part by the available statistics, which were tabulated geographically. From an agronomic standpoint, the classification is inadequate, and although statistics are almost wholly lacking for the following kinds of pasture, it is necessary to recognize the distinctions made and define the meaning of the terms used in this discussion.

Definition of Pasture Terms.

Permanent or long-lay pastures are those covered with perennial or self-seeding annual plants, usually both, and are kept in grass for a long period of years. In many cases such pastures are seldom or never plowed. Rotation or short-lay pastures are those sown to perennial grasses for one to three years' lay and then plowed up. Temporary pastures are those used for grazing during a few weeks. These include miscellaneous crop-land pastures, such as seedling pasture, stubble pasture, aftermath pasture, fallow pasture, and crop pasture.

Tame pastures are those composed largely of domesticated grasses. Native, wild, or natural pastures are areas covered wholly or mainly with native plants useful for grazing; when extensive, such an area

is called a "range." Shrub or brush pastures are those covered largely or mainly with shrubs; on such pastures the feed is called "browse," and the act of feeding, "browsing." A forest or woodland pasture is one in which more or less grass and other forage plants grow in among trees. A stump or cut-over land pasture is one on land which has been deforested, and may or may not be growing a new crop of trees.

Periods and Degree of Grazing.

(1) Season-long grazing—grazing a pasture continuously during the whole season; if grazed during entire 12 months, then called "yearlong" grazing.

(2) Continuous grazing—grazing constantly throughout the season.

(3) Rotation grazing—grazing two or more pastures or areas in regular order, with definite resting periods. This method, where only two fields are involved, is sometimes called "alternate" grazing.

(4) Intermittent grazing—grazing a pasture now and then, regardless of definite periods.

(5) Premature grazing—turning animals on the pasture too early in the season, before the ground is firm and before the grasses have gained a sufficient start.

(6) Deferred grazing—keeping animals off a pasture until after the seed crop is mature, primarily to insure natural reseeding, but also in many cases to stimulate vegetative reproduction.

(7) Season-long resting—no grazing during one whole season, and incidentally natural reseeding.

Of the above, deferred grazing and season-long resting definitely provide for natural reseeding, while the others do not include such provision.

The above terms relate to the period of grazing. Other terms are used mostly to denote the degree of grazing.

(8) Carrying capacity is the ratio of animals to the unit of area that will furnish ample sustenance; thus 1 cow to 2 acres; 3 sheep to 1 acre.

(9) Close or heavy grazing—pasturing as many animals on a given type of pasture as will furnish good feed to the animals and at the same time not injure or destroy the plants.

(10) Overgrazing—grazing which results in the destruction of desirable vegetation, sometimes called "destructive grazing."

(11) Undergrazing or light grazing—pasturing below the carrying capacity of the area. In humid regions undergrazing often results in pasture deterioration by the ingress of weeds.

Systems of Grazing.

In a series of fields or pastures any one of the grazing-period methods may be used first on one field and then on another. This grazing may be continuous or intermittent, light or heavy, as may be desirable. The animals may be all of one kind or of two or more, grazed together, or in succession. A definite method of grazing used in respect to two or all of these three factors—periods of grazing, rate of grazing, and kind or kinds of animals used—may be called a grazing system. There are many possible systems of grazing and there yet remains a great field of investigation to determine the best for each type of pasture.

Grazing Systems in Different Pasture Regions.

In the northern humid region the farm animals are usually kept on pasture throughout the grazing season or until all the forage has been utilized. During the fall months, the regular pastures are generally supplemented by giving the livestock the run of various farm fields for a month to six weeks. Occasionally, farmers are found who move their animals from one pasture to another in order that the pastures may be rested for a time, or who change the classes of livestock from year to year, as from sheep to cattle. Many dairymen have what is termed "a night pasture," where for convenience the cows are allowed to graze and rest during the night.

In the Southern States, where there are still vast areas of unfenced land, much of the livestock is allowed to run loose throughout all or the greater part of the year. In recent years the establishment of permanent tame pastures and the growing of special winter pasture crops have been increasing.

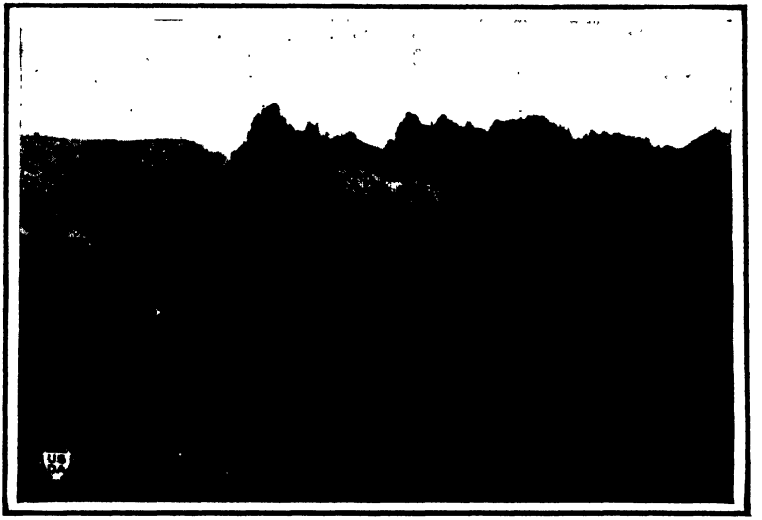
In the far Western States, where there are large areas of land usable only for grazing purposes, most of the livestock is grazed during as much of the year as possible. A number of farmers, especially in the semiarid Great Plains region, divide their lands into summer and winter pastures. On some of the larger cattle ranches these are further subdivided into a number of pastures. They may run cows in one pasture, yearlings in another, and the older steers in still a third. In some sections the more progressive cattlemen also follow the practice of using pastures in rotation, whereby given areas are grazed for only a definite part of the year. Sometimes one of the pastures is held until the grasses have matured a seed crop before being grazed. The practice of running more than one class of animals on the same pasture is also becoming common, especially in Texas.

Kinds of Pasture.

The different kinds of pastures are classified, first, according to the length of time they are to be used into permanent, rotation, and temporary; second, on the basis of the plants that make up the pasturage into tame and wild.

Permanent Pastures.

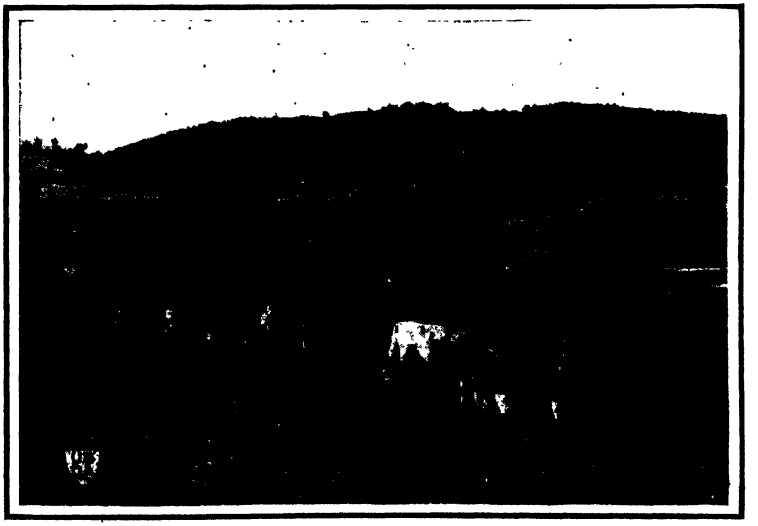
Permanent pastures are most common on land that can not wisely be tilled. Such lands include steep hillsides, which erode easily, and lands too dry, too wet, too poor, or too remote from markets to produce crops profitably. On permanent pastures two types of grasses need to be distinguished, as they differ greatly in character: *Bunch grasses*, those which grow in clumps and have no creeping branches; and *creeping grasses*, those with horizontal branches either on the surface or below the surface. Typical bunch grasses are timothy, orchard grass, broom sedge, wire grass, and many of the western range grasses (fig. 49). Characteristic creeping pasture plants include bluegrass, white clover, Bermuda grass, carpet grass, and some of the wild short grasses of the West—notably buffalo grass and mesquite grass (fig. 50). Bunch grasses weaken greatly under continuous mowing or constant grazing, so that sooner or later many of the plants die. Orchard grass and sheep's fescue apparently withstand continuous grazing better than the other bunch



CATTLE ON BUNCH-GRASS PASTURE IN COLORADO.

FIG. 49.—A bunch-grass pasture in one of the valleys of the Uncompahgre National Forest of Colorado. This illustrates the better class of pastures which are found in the mountain valleys of the West. They provide much of the grazing in the national forests.

grasses. The creeping grasses are rarely killed out by heavy continuous grazing. Two of the larger creeping grasses, however—Johnson grass and quack grass—almost disappear under continuous grazing or constant mowing. With creeping grasses or other plants, close grazing is the best practice, provided it is not begun too early in the spring. Bunch grass pastures must be grazed carefully, as



A BLUE-GRASS PASTURE IN VIRGINIA.

FIG. 50.—Blue-grass pastures of southwest Virginia. The cattle usually graze the higher areas and the fields in the valley are used for corn and hay.

they will not withstand continuous grazing unless it is light or moderate up to the time of seed maturing. They may then be grazed close or heavy as previously defined.

Growing with either type of perennial grasses there may be various annuals such as lespedeza, hop clovers, crab grass, wild oats, alfilaria, bur clover, and black medick. Annual plants may be either winter annuals, as bur and hop clovers in the South, and alfilaria in California, or summer annuals, as lespedeza and crab grass. The most valuable annual plants for pasture produce seed even when kept closely grazed. Some, indeed, when closely mowed or grazed, produce creeping branches, as do the crab grasses.

Rotation or Short-Lay Pastures.

Rotation pastures are fields in a cropping system that have been sown to perennial grasses. These pastures are most important in the Corn Belt and the southern portion of the hay and dairying region north and east of the Corn Belt. The common rotation in these regions is corn, oats or wheat, clover and timothy, the last frequently being pastured for one or two years before being plowed up for corn. In New England and eastern New York orchard grass, redtop, and the bent grasses partially replace timothy. There are about 140,000,000 acres of crops in these regions, but not all this acreage is in a rotation involving pasture. It appears likely that about 30,000,000 acres in these regions are in rotation pasture, and that there are, probably, 5,000,000 acres in other parts of the United States. This total of 35,000,000 acres would include over half of the improved humid pasture of the country (see Table 22).

Temporary Pastures.

Temporary pastures are very diverse in type and are here considered to include various types of crop fields used as pastures for short periods.

Fallow pastures.—Fallow land is often pastured to keep down weeds. This practice is common in Oregon and Washington.

Seedling pastures.—Fields of young wheat, rye, oats, clover, etc., are frequently grazed for a time in the fall and winter, and in particular regions this is regarded as beneficial to the subsequent grain or hay crop. The largest acreage of wheat pastured in this way is found in Kansas and adjacent states. It is roughly estimated that about 8,000,000 acres of winter grain are pastured in this way. Some plants may be pastured continuously from the seedling stage to maturity. Thus, rye is frequently sown wholly for pasturing during the cool part of the year, and Sudan grass is much employed for summer pasture.

Stubble pastures.—This term refers to fields other than meadows from which the main crop has been harvested and the stubble and weeds then pastured. This practice is common with small grain crops, which altogether occupy about 127,000,000 acres. It is estimated that 45,000,000 acres of small grain fields are pastured after harvest. This figure is largely a guess, but stubble pasture on the whole is an important item.

Aftermath pastures.—Hay meadows are very commonly pastured in the fall after the hay is cut. The proportion pastured varies in different parts of the United States and with the kind of hay, prob-

ably over half the wild hay land being pastured and less than one-fourth of the alfalfa. It appears safe to assume that one-third of all hay land is thus incidentally used for pasture. There were nearly 73,000,000 acres in hay in 1919, and it is roughly estimated that about 24,000,000 acres were pastured.

Crop pastures.—Mature or well-developed crops are often utilized by pasturing. Such might be considered either as pasturage or as crops. From a statistical standpoint they are here regarded as crops and are thus discussed (see p. 340). A considerable proportion of the cowpeas, velvet beans, soybeans, rape, and peanuts is pastured off when green or approaching maturity, but the proportion of the acreage is impossible to estimate.

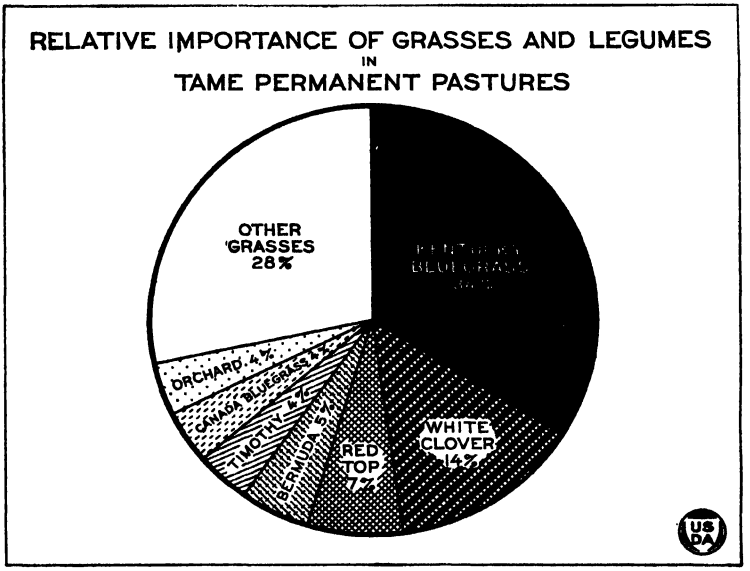


FIG. 51.—Of the various tame grasses and legumes which form the vegetation of permanent tame-grass pastures in the United States, Kentucky blue grass constitutes about one-third of the total, while white clover, redtop, Bermuda grass, timothy, Canada blue grass, and orchard grass jointly form 38 per cent. The remaining 28 per cent is made up of numerous other plants. Detailed statistics not being available, the above figures represent the best estimates of six well-qualified students of the subject. Their estimate is based on the assumption that 65 per cent of all the permanent tame pasture is in the northern humid region, 15 per cent in the southern humid region, and 20 per cent in the West.

Tame Pastures.

Tame pastures include all rotation pastures and such permanent pastures as are composed principally of tame grasses. The tame pastures of the United States constituted probably three-fourths of the improved pasture in farms in 1909, or about 60,000,000 acres, and probably a little over one-third of the unimproved pasture (excluding woodland pasture), or 40,000,000 acres (fig. 52). The total area in 1909, therefore, may be roughly estimated at 100,000,000 acres. The acreage is probably somewhat less to-day, since much improved pasture which was plowed up for crops during the war has not yet been restored to grazing.

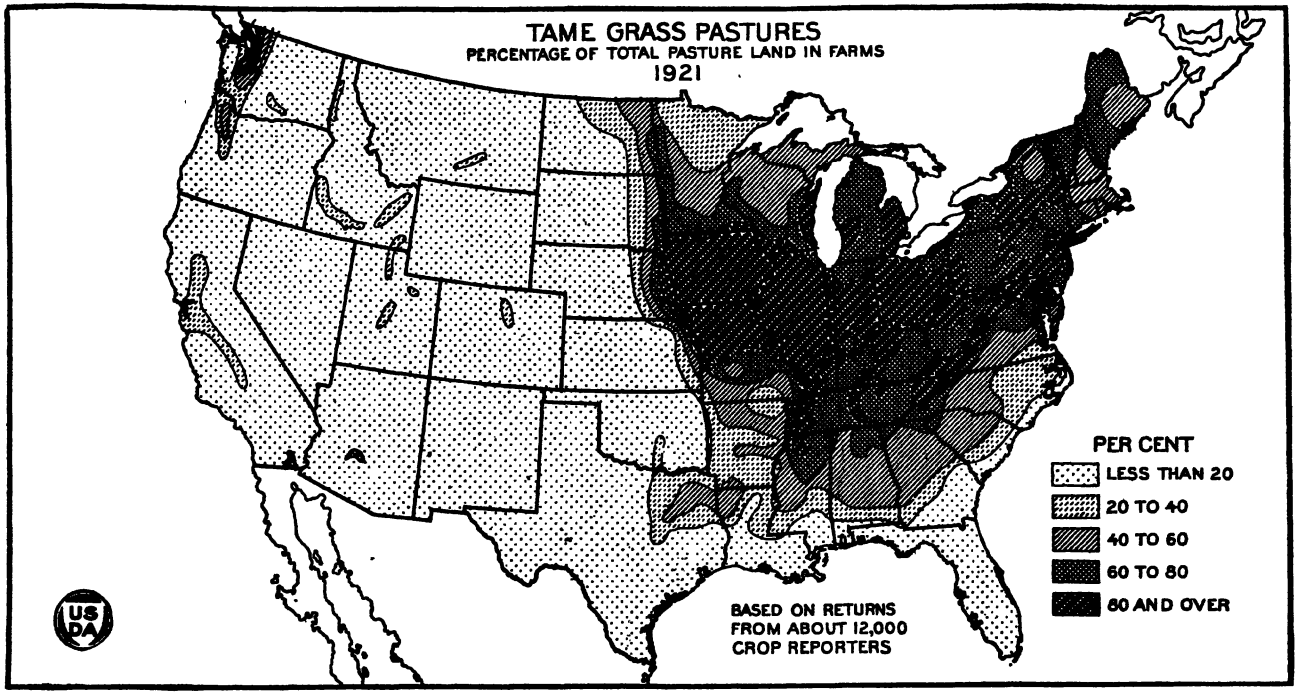


FIG. 52.—Most of the tame-grass pastures are in the northern humid region. In the Corn Belt, where tame grasses constitute 80 per cent or more of all pastures, rotation pastures, largely timothy and clover, are very important. In the South little attention has been given to tame pastures in the past, but owing to the depredations of the cotton-boll weevil greater interest is now being taken in their establishment. In the West much of the country is too arid for tame grasses. These are important, however, in the humid North Pacific region and in some of the irrigated districts.

The principal grasses and other plants which make up these tame pastures and their importance are shown in Figure 51. The carrying capacity of some of these pastures is as high as one steer per acre for six months. Good bluegrass pasture will carry one steer to 2.5 acres for six months and furnish considerable feed for two or three months longer. For all of the tame pastures it is assumed that 3 acres will carry a steer for 6 months. In parts of the East, especially in certain more humid portions, observations and experiments indicate that the average tame pasture composed of creeping grasses is grazed at little more than half of its capacity. The farmer fears pasture shortage and hence tends to undergraze his tame pastures, overlooking the fact that in these regions the grass that is allowed to grow tall is never grazed. Tame pastures of creeping grasses in this region are seldom "overgrazed" in the sense that injury results to the grasses. Indeed, heavy grazing keeps such pastures in far better condition than does the light grazing ordinarily practiced, because such closely grazed grass keeps green and growing, whereas if allowed to flower and to seed it becomes dormant. Undergrazing is often harmful, too, because it encourages the growth of weeds, which tend to kill the grass by shading. With more intelligent management tame pastures of creeping grasses in humid or irrigated regions will carry at least 50 per cent more animals and the pastures will be improved by such heavier grazing.

Wild Pastures.

Native or wild grass pastures cover about 10 times as large an acreage as tame-grass pastures and supply fully twice as much sustenance. They include the forest and cut-over land pastures of the more humid portions of the country, the native tall-grass pastures of the prairies, the short-grass pastures and range lands of the Great Plains and other semiarid portions of the West, the bunch grass areas of the western plateaus, foothills, mountains and valleys, and the desert-shrub areas of the arid regions (fig. 53). The carrying capacity of the best humid prairie pastures along the edge of the Corn Belt is as high as that of tame pasture, but in most of the West it requires from 10 to 100 acres to maintain one steer during the grazing season. Whereas some of the tame-grass pastures of the more humid regions of the East are undergrazed and deteriorating as a consequence, much of the wild-grass range of the West is overgrazed and deteriorating even more rapidly. The problems of pasture improvement are very different in different portions of the United States, consequently it is necessary to consider the pasture situation by regions.

The Pasture Regions.

From the standpoint of pasture utilization the United States may be divided into three main regions and one lesser region: The northern humid region, the southern humid region, the western range, and the Pacific humid region. The first two regions embrace all of the humid grassland areas, except the belt along the northern Pacific coast, and small scattered areas in the range States. They also include two-thirds of the forest and cut-over lands used for grazing. The western range region covers practically all of the arid and semiarid grassland and desert shrub areas, limited areas of the humid grassland, and nearly one-third of the forest and woodland pasture.

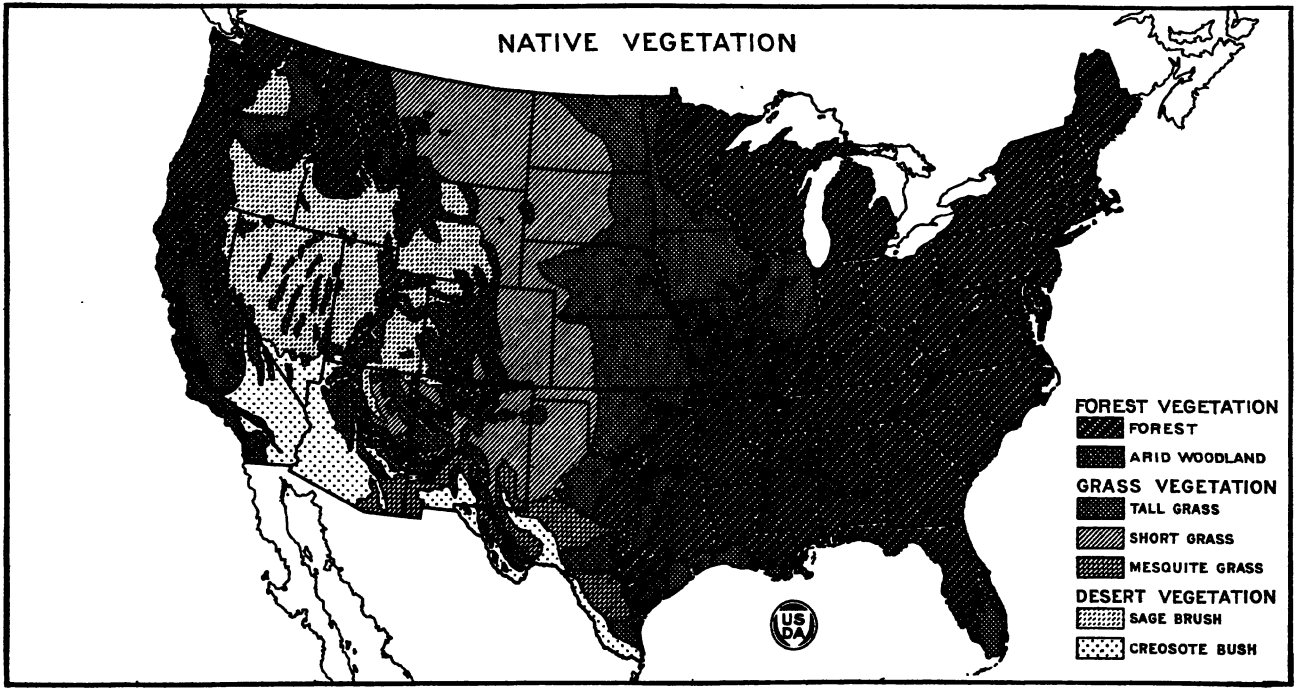


FIG. 53.—Forests, including semiarid woodland (pinon, juniper, mesquite, chaparral, etc.), originally covered about 830,000,000 acres in the United States. About 270,000,000 acres have been cleared for agriculture and 350,000,000 acres have been cut over or devastated. About 670,000,000 acres of land in the United States were covered originally with grass, interspersed commonly with other herbaceous plants. Nearly 200,000,000 acres of this grassland have been plowed up and used for crops or for pasture in rotation with crops, including about 7,000,000 acres irrigated. Semi-desert vegetation characterized about 400,000,000 acres of land in the United States, of which about 12,000,000 acres have been reclaimed by irrigation. Half of the present area of forest and cut-over land is pastured, practically all of the grassland and nearly all of the semi-desert.

In the northern humid region the pasture lands are mostly included in farms and are used largely to supplement the crop lands. In the southern humid region, where the livestock industry is, in general, not yet highly developed, grazing is largely on unimproved lands, considerable areas of which, although privately owned, are open range. In the western range country much of the agriculture is based on the utilization of the vast areas of grazing lands, largely unfenced, and some of which are publicly owned. Pasture lands in the Pacific humid region are handled in much the same manner as those of the northern humid region.

The Northern Humid Region.

The northern humid region includes practically all lands lying north of the Cotton Belt and extending westward to where conditions

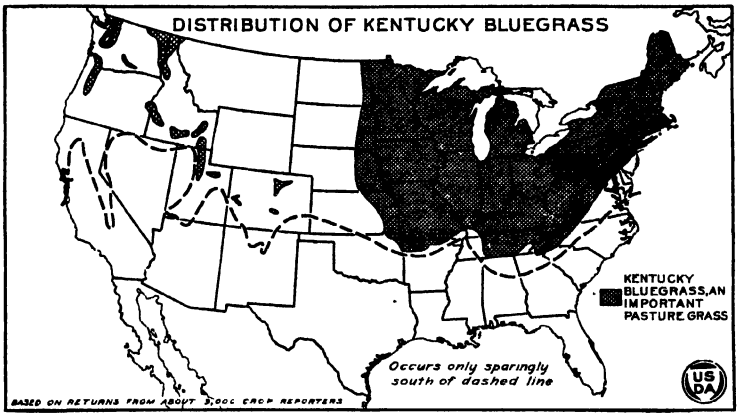


FIG. 54.—Kentucky blue grass is the most important pasture plant in the northern humid region and is undoubtedly the leading tame-pasture grass in the United States. It is also important in the valleys of the Pacific humid region, and occurs in many of the irrigated pastures and some of the mountain meadows of the northern range States, where its use is increasing.

become too dry for the successful growth of timothy and Kentucky bluegrass. For convenience in discussion, the southern boundary of Virginia, Kentucky, and Missouri may be taken as the dividing line on the south, although the region properly includes the southern Appalachian area in western North Carolina, eastern Tennessee, and northern Georgia, also the mountains of northwestern Arkansas. The 98th meridian is approximately the western boundary.

The pasture grasses.—Originally this region was forested, except for the triangular prairie portion extending from central Illinois northwestward to North Dakota and southwestward to Oklahoma (fig. 53). Interspersed throughout the timbered region were numerous openings, often the result of Indian occupation, where native grasses, such as the lyme grasses and broom sedges, prevailed. In the prairie country the dominating grasses were the bluestems, and these grasses are still largely used for both hay and pasture in Minnesota and the eastern Dakotas, Nebraska, and Kansas.

In the forested parts of the region, after the land was cleared of timber and converted into farms, various tame grasses became es-

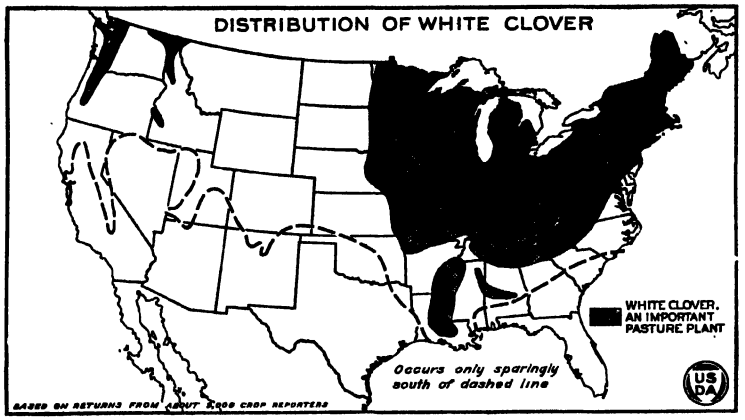


FIG. 55.—White clover occurs in most pastures of the northern humid region. It grows much farther south than Kentucky blue grass, extending in places to the Gulf of Mexico. It is also found in many of the humid valleys and mountain areas of the West.

tablished. These introduced grasses have replaced wholly or in large part the native grasses. In this northern region the principal introduced grasses are Kentucky bluegrass, white clover, redtop, Rhode Island bent, and Canada bluegrass. These introduced plants are far superior to the native plants as producers of pasturage, and add materially to the average carrying capacity. They are mostly of a creeping habit, whereas the native species were bunch grasses.

Kentucky bluegrass (sometimes called "June grass") is the leading tame pasture plant of the region (fig. 54). It tends, however, to occupy only the richer soils. White clover stands next to Kentucky bluegrass in importance. It occurs with more or less frequency in most bluegrass pastures, although it does not form so large a percentage of the total sod. This plant also extends southward to the Gulf of Mexico in Louisiana (fig. 55). Redtop fre-

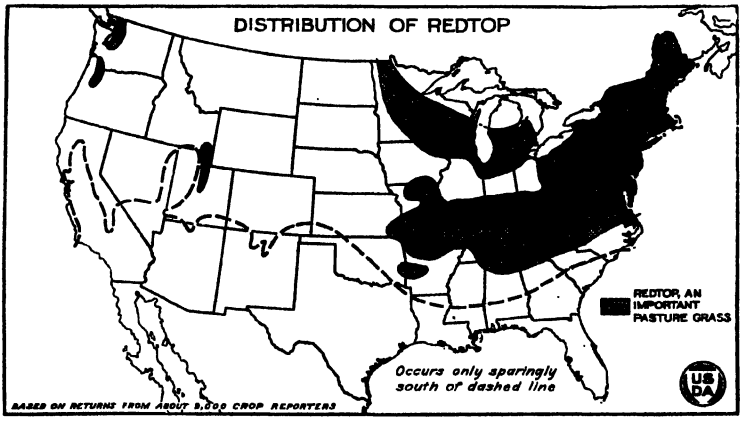


FIG. 56.—Redtop (including the bent grasses) occupies a prominent place in many of the pastures of the northern humid region and the more mountainous portions of the southern humid region. In west-central Ohio, central Indiana and Illinois, and in most of Iowa, where more than 50 per cent of the tame-grass pasture is rotation pasture and where the land has been pretty well drained, this grass is not reported as important in pastures.

quently forms the basis for pasture sods on the poorer and undrained soils where Kentucky bluegrass does not thrive (fig. 56). In southern Illinois, on heavy clay soils, redtop tends to dominate. In New England, Rhode Island bent is the most abundant grass on the poorer lands, where it is generally accompanied by redtop, white clover, and hop clover. Canada bluegrass also occupies a prominent place in many of the poorer areas where conditions are not favorable to the growth of Kentucky bluegrass and white clover. Orchard grass is important in New England, eastern New York, and the southern Appalachians.

The grazing season.—In the northern humid region the grazing season varies according to the length of time the ground is free from snow, the duration of the growing season, the occurrence of drought, and the kind of vegetation. In the northern part the normal season is about five months, while in the southern part it lasts nearly seven months, the average for the whole region being not far from six months (fig. 57). In the western part the pasture season is

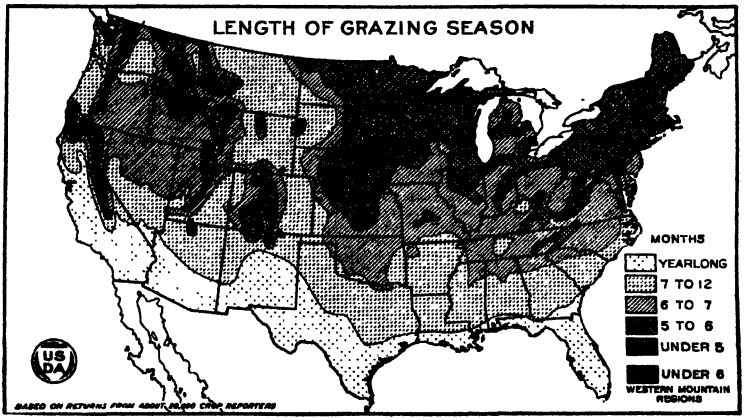


FIG. 57.—The average length of grazing season for the entire United States is about 6½ months. In the hay and dairying region of the North and in those parts of the Corn Belt where late summer droughts are frequent and the feed used up early in the fall the grazing season is less than 6 months. In the mountains of the West the grazing season also is mostly under 6 months. In the corn and winter wheat belt and on the plateaus of northern Nevada and southern Oregon and Idaho the season is from 6 to 7 months. In regions where there are extensive areas of pasture and where the ground is fairly free from snow the grazing season lasts from 7 months to a year. Along the southern margin of the United States and in most of California there is yearlong grazing.

usually cut short by a dry period in late summer. In many portions of the region, especially the western, the grazing season is often extended by two to six weeks grazing on the various crop fields.

Throughout the northern half of this region the cattle are usually turned on pasture during the last week in April or the first two weeks in May, at which time the grass has attained a fair growth. In the more northern sections many farmers wait until the middle of May. In the southern half most of the cattle are turned out during the first three weeks in April. Cattle are generally taken off pasture during the last week in October or the first week in November, except in the western part of the region where they may be transferred to other fields early in October and sometimes in

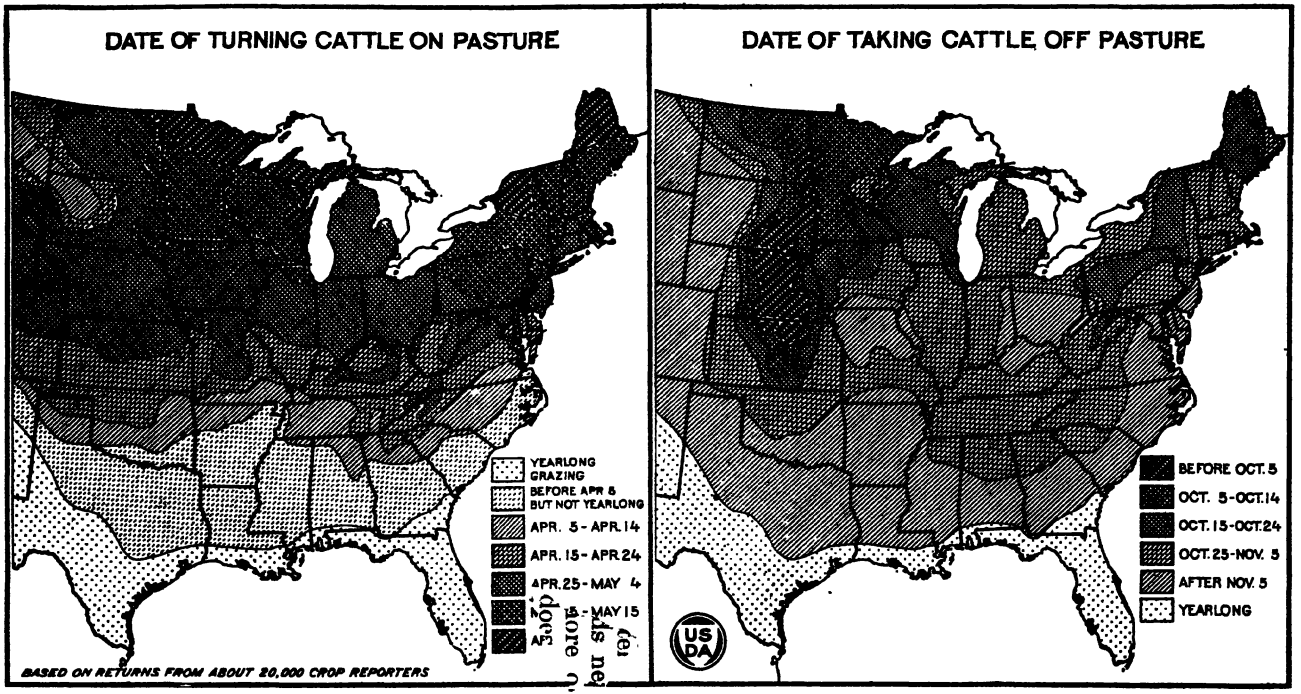


FIG. 58.—In the northern part of the eastern humid region cattle are mostly turned on pasture about May 1, at which time the grass has made a fair start. In the southern part they are mostly turned out in April, except where they are allowed to graze throughout the entire year. In sections when the pasture gives out early because of shortness of feed, due to dry weather or insufficient acreage, cattle are taken off pasture as early as October 1. Where there is an abundance of feed they may be left out until snow falls. Sheep, which graze on a large variety of vegetation, are usually turned out a week or two earlier and kept on pasture a little later in the fall.

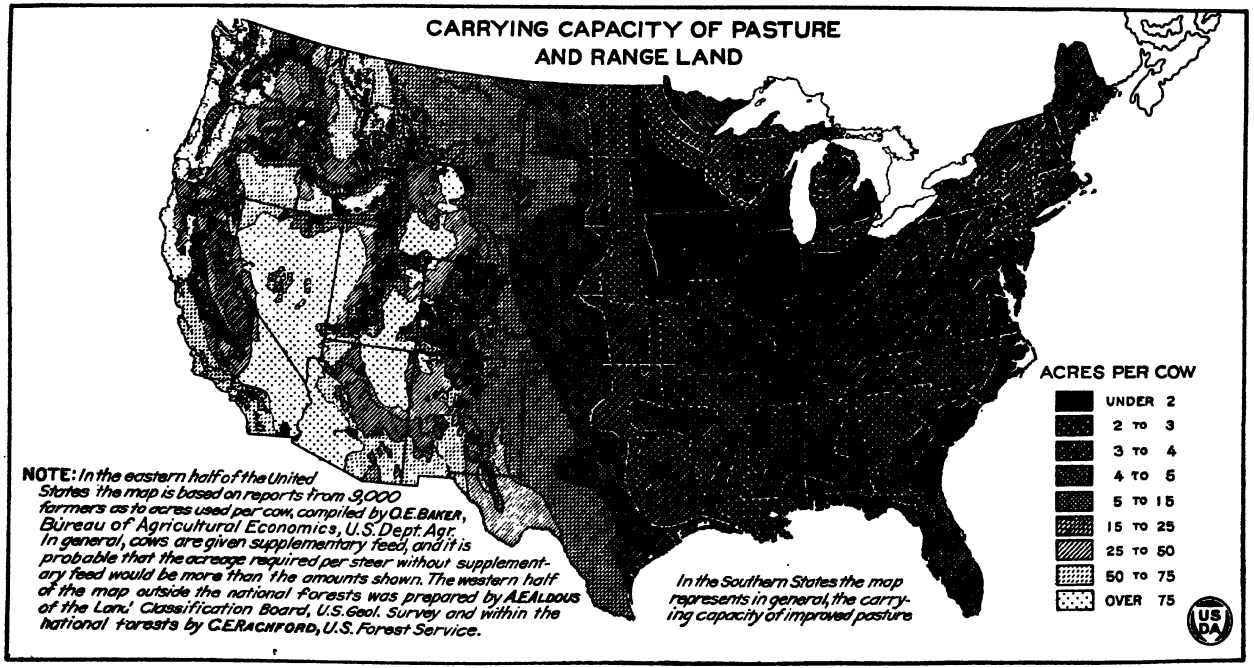
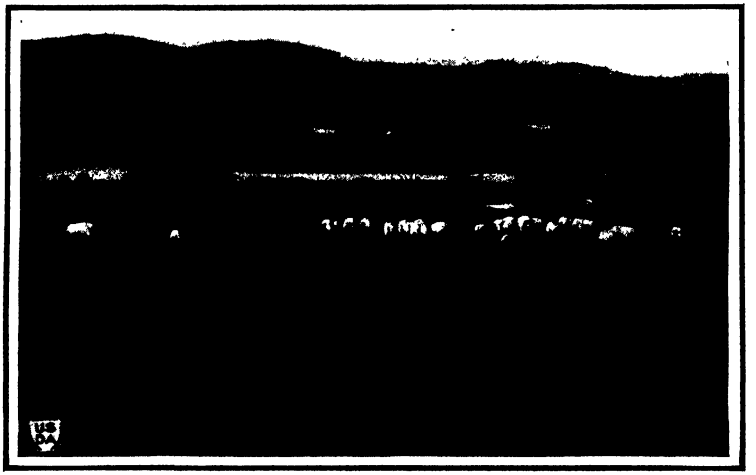


FIG. 59.—In the Corn Belt and in the southwestern portion of the hay and dairying region, where the soil is naturally rich and where there is ample rainfall, most of the pastures will carry an animal unit on 1 to 2 acres. The lowest carrying capacity, over 75 acres per animal unit, is in the arid interior plateau region and in the dense forests of the North Pacific coast. A comparison with Figure 51 shows that the areas having the greatest percentage of tame pastures generally have the highest carrying capacity.

September (fig. 58). Where bluegrass pastures are especially luxuriant they are frequently grazed until December and even January.

Carrying capacity.—The permanent pastures in this region will carry an animal unit for a 6-months' season on from 1 acre to 5 acres or more. The average is probably close to 3 acres. Rotation pastures will average about 2½ acres per animal unit. In Iowa the carrying capacity of rotation pastures, averaging the 350 reports for the State, is about 1.7 acres, as against 1.8 for permanent tame-grass pastures. In New York and Pennsylvania the figures are 2.5 as against 2.8. The average carrying capacity of the dominant type of pasture is shown in Figure 59. Among the temporary pastures, the stubble fields that are pastured will carry apparently about 1 animal unit to 5 acres for 6 to 10 weeks, and cornstalk fields commonly carry an animal to the acre for nearly a month. The



SHEEP ON A NEW ENGLAND HILLSIDE PASTURE.

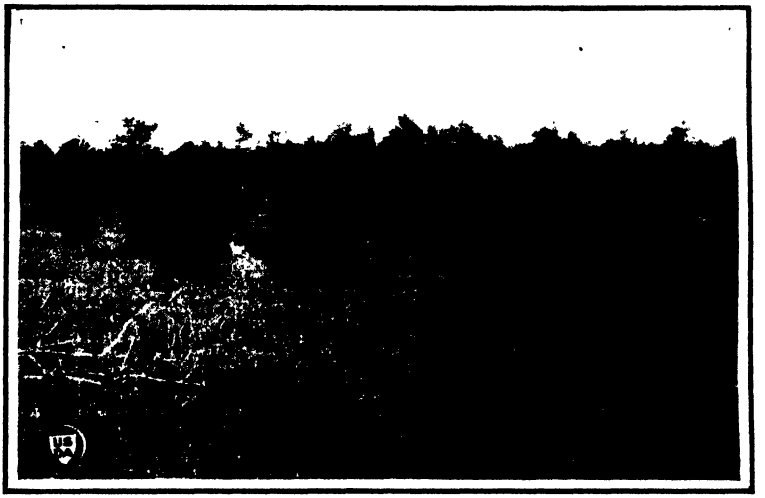
FIG. 60.—A pasture in northern Vermont on which sheep have been grazed for several years. It has an excellent stand of blue grass and is comparatively free from weeds.

aftermath pasture of hay fields may be roughly estimated at 3 acres per animal during a 6 weeks' period. The forest and cut-over land pastures in this region average about 20 acres to the animal unit for the 6 to 7 months' season; the brush-land pastures average a somewhat smaller acreage per animal.

The place of pasture in the agriculture of the region.—In the northern humid region forage crops are very important; and, in general, pasture occupies a secondary position as a source of feed. The region produced in 1919 over two-thirds of the crops fed to livestock and over three-fifths of the vegetable food for man harvested in the United States. It also possesses about three-fifths of the total animal units in the nation.

With the exception of the forest and cut-over areas of the Lake States and some of the more mountainous areas, there is little grazing land outside of farms and this is of relatively low carrying capacity.

Of the land in farms about one-third is in pasture. The relative amounts of land in pasture and the kinds of pasture vary greatly within the region. In the New England States and eastern New York, where the area of crop land is relatively small and where much of the farming is based on the production of dairy products, all of the rougher lands not covered with timber are utilized as pasture. Some of these pastures are fairly productive (fig. 60), but the majority are on rather poor soil or are more or less covered with brush and timber. It is probable that these pastures furnish about half of the total subsistence of the dairy cows during the six warmer months. In the central and southern Appalachian areas, which include southern New York, most of Pennsylvania, eastern Ohio and West Virginia and parts of Virginia, North Carolina, Tennessee, and Kentucky, pastures are also important. In regions accessible to in-



JACK PINE PLAIN IN MICHIGAN.

FIG. 61.—Jack pine and scrub oak are characteristic of the sandy plains of northern Michigan, Wisconsin, and Minnesota. So long as these pine plains are subject to fires they are incapable of either forest or pasture improvement. In their present condition they afford only very poor grazing.

dustrial centers these pastures are largely used by dairy cows, but in the more remote sections beef cattle and sheep dominate. In the cut-over section of the Lake States much of the pasture is land that has not been sufficiently cleared for crop production. In the sandy jack-pine areas the pastures are very scanty owing to the poor soil (fig. 61). These cut-over lands are not fully utilized as a rule, because not enough feed crops are grown to carry the animals through the winter.

In the Corn Belt and in part of the corn and winter wheat region, permanent pastures are largely confined to the rougher land or shallow soils. The less rolling lands are kept mostly in crops and rotation pasture. In the Corn Belt, where large quantities of roughage are available, the hayfields in the rotation system are used for a year or two longer as pasture, the livestock being fattened on corn.

The Southern Humid Region.

Nearly all of this area was originally covered with timber, and over half is still in timber or has been cut over and is growing up to brush and trees. As in the northern humid region, there were oc-

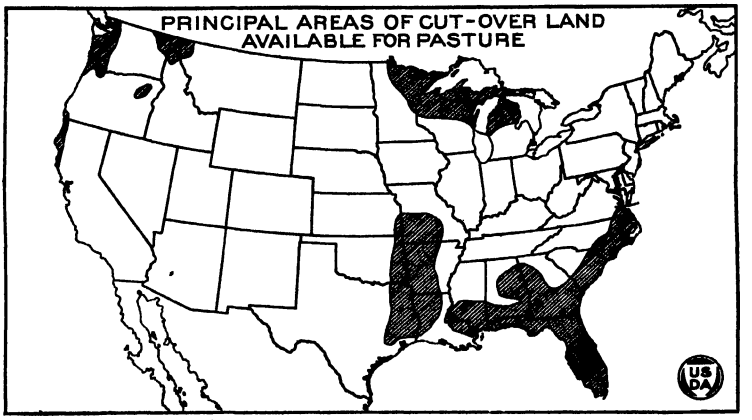


FIG. 62.—The principal areas of cut-over land available for grazing purposes are in the piney-woods regions of the south Atlantic and Gulf coastal plain and the upper Lakes region of Michigan, Wisconsin, and Minnesota. Much of this land is sandy, although good soils are also to be found. There are smaller areas of cut-over land in the Pacific Northwest.

casional prairies where broom sedges, panic grasses, and wire grasses grew.

In practically all of this region relatively little attention has been given to the development of tame-grass pastures and the production of livestock. The farmers have devoted most of their time to the growing of cotton, corn, and tobacco. Until recently a large percentage of them did not even grow sufficient feed for their own work

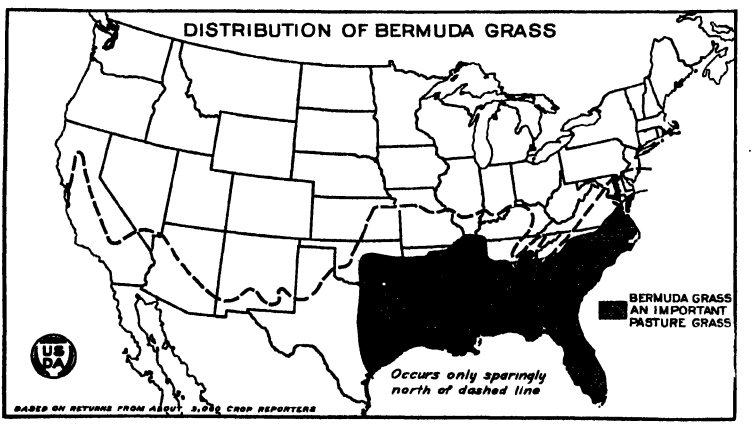


FIG. 63.—Bermuda grass is unquestionably the best summer-pasture grass of the South, where it occupies the same relative position as Kentucky blue grass in the North. It also occurs in many of the irrigated valleys of California and Arizona. On the best lands it frequently has a carrying capacity, between frosts, of two cows to the acre.

animals, much of the grain and hay being shipped in from the West-Central States. As there was plenty of unimproved land in the hilly areas, in the swamps, and in the vast areas of forest and cut-over lands (fig. 62), the animals were generally able to find sufficient feed to maintain themselves. The livestock were often given the run of the crop lands during the winter months.

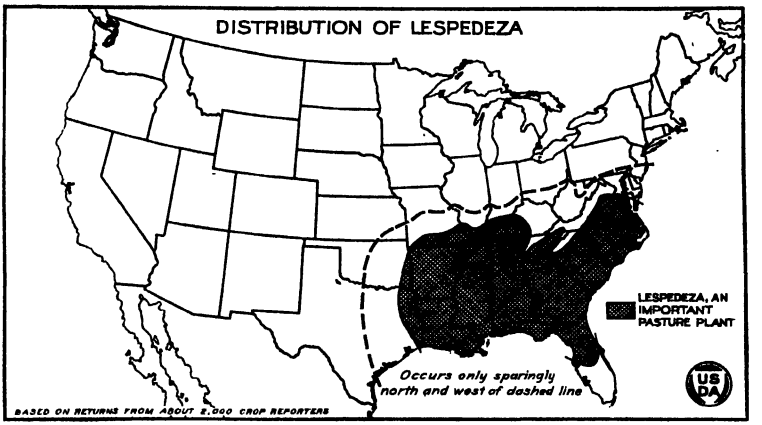


FIG. 64.—Lespedeza occupies a prominent place as a pasture plant in most of the Southeastern States. While it will grow on poor soils, it does best on rich loams. It is spreading over a large area of the southern cut-over lands, where it furnishes excellent feed after the wire grass has become unpalatable. On the more productive valley lands of the Cotton Belt it is sometimes cut for hay.

In recent years, especially after the advent of the boll weevil, greater interest has been taken in the production of livestock, principally hogs and cattle. This, in turn, has made it necessary to give more attention to the growing of feeds and the improvement of pastures. The enactment of laws which prohibit the turning out of livestock to range at will has also compelled farmers in many sections to improve their pasture lands.

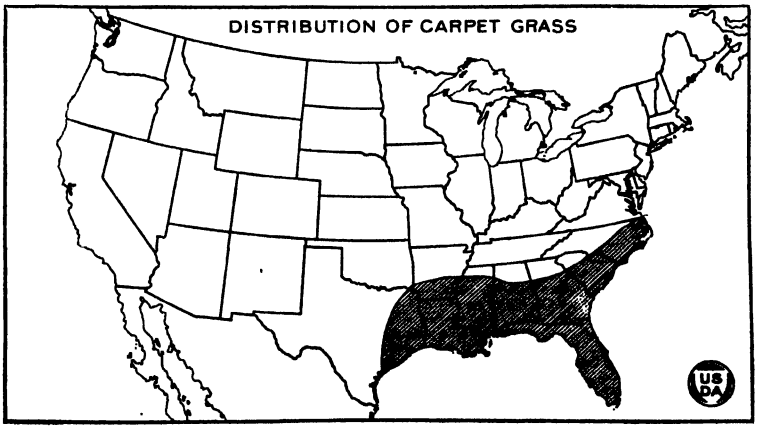


FIG. 65.—Carpet grass is becoming one of the most important pasture grasses in the southern humid region. On many soils it has demonstrated its ability to crowd out most other grasses. It is common around small towns where burning the pastures is not customary and close grazing is practiced.

The pasture grasses.—Introduced species have not replaced the native grasses in this southern humid region to nearly the extent that they have in the northern. However, Bermuda grass, carpet grass, lespedeza, Dallis grass, and crab grass are rapidly spreading in the forest and cut-over lands. Most of these introduced grasses are destroyed by the annual burning of the forests and poorer pasture lands, a common practice in the South, whereas few of the native grasses are injured by this practice. Indeed, the purpose of this burning is to destroy the unpalatable old growth and to encourage the young growth of the native grasses. When the fires are kept out and the pastures closely grazed, carpet grass and lespedeza tend to displace the native plants, especially on the better soils. However, these native grasses, of which broom sedges and wire grasses are the most important, still supply most of the grazing in the open forests and

CHARACTERISTIC FLORIDA FLATWOODS RANGE.

FIG. 66.—Typical forest range in the lake region of central Florida. The longleaf pine, palmetto, and wire-grass vegetation is characteristic. Cattle, hogs, and sheep are allowed to run loose throughout the year. Wire grass and broom sedge furnishes most of the grazing. Approximately 10 acres of such range are needed to carry a steer a year.

other unimproved land, especially during the spring and early summer months.

Although there are comparatively few permanent tame pastures in this region, it is not difficult generally to establish such fields, except on the very sandy soils. With the increasing interest in livestock production, the acreage of tame pasture will undoubtedly increase greatly in the next few years. Bermuda grass is the leading tame pasture grass and occupies much the same relative place in the South that Kentucky bluegrass does in the North (fig. 63). White clover (fig. 55), lespedeza (fig. 64), and carpet grass (fig. 65), on the better soils are also being used quite commonly in improved pastures.

The grazing season.—The season in the Cotton Belt lasts from 7 to 12 months, depending on local conditions and practices (fig. 57). The period of turning out to pasture is somewhat variable. Those

who do not practice yearlong grazing generally turn their animals out during the latter half of March or the first week in April (fig. 58). Usually the animals are allowed to run on pasture until about the first of January. In the Gulf coast region, where the growing season is long, and where there is a vast extent of grazing land, livestock are generally allowed to run on pasture throughout the year.

In the Cotton Belt the practice of using unimproved pasture during the summer season generally prevails. However, in the late summer and fall, when the native pasture grasses become dry and woody, the livestock are frequently turned into fields of corn, often mixed with cowpeas or velvet beans, and allowed to graze on the cornstalks and legumes after the corn is harvested. Peanuts are extensively grown to be pastured off by hogs. Many farmers now seed vetch, crimson clover, rye, and winter oats in the fall to serve as winter pasture.

Carrying capacity.—The pastures of the South vary greatly in carrying capacity. The "piney woods," and, indeed, most of the forest and cut-over lands used for pasture, probably average about 20 acres per animal unit. In the more open woodlands the grazing capacity may rise to 10 acres per steer on yearlong range (fig. 66). The best Bermuda pasture, on the other hand, will carry as high as two animal units to the acre. The carrying capacity of improved pastures is in general 2 to 3 acres per animal unit (fig. 59), and of the unimproved pastures, mostly forest and cut-over land, 5 to 25 acres.

The place of pastures in the agriculture of the region.—Throughout the greater part of the South, farm pastures, which are largely unimproved, occupy a relatively unimportant place. The vast areas of unfenced forest available for grazing, and the greater remuneration to be derived from growing cotton, have prevented the development of improved pastures. But with the coming of the boll-weevil conditions have changed, and undoubtedly improved pastures will become more common. The pastures will be supplemented during the fall and winter by turning the animals into fields of velvet beans, cowpeas, and other forage crops.

Nevertheless, the forest, cut-over, and other unimproved grazing lands will doubtless provide for many years a greater aggregate quantity of feed than the improved pastures. There are over 100,000,000 acres of cut-over land in the South, a large part of which is now unproductive and rapidly growing up to brush. The best of these lands will undoubtedly be cultivated in time, but as there is little demand for new lands at present and as clearing is an expensive process, large areas can still be best utilized for grazing, or for grazing while timber is becoming established. Even after all the lands available for grazing have been developed, there will remain large areas of sandy or sterile soils of more value for forest than for any other purpose.

The Pacific Humid Region.

The Pacific humid region, except for a few prairie districts, was originally heavily forested and largely remains so. The more accessible forests have been and are being cut; but much of this cut-over land, owing to the high cost of clearing, is reverting to forest and brush, especially the rougher lands. Some, however, is being cleared,

and pastured meanwhile by cattle, sheep, and goats. Farm land in this region, other than forest, constituted only 11 per cent of the land area in 1919.

The general usage of pastures in this region is not greatly different from that in the northern humid region. The native prairie grasses, mostly lyme grasses, fescues, bluegrasses, bents, and bromes have been largely replaced by introduced tame grasses. The most important of these grasses from the pasture standpoint are Kentucky bluegrass (fig. 54), white clover (fig. 55), Italian and perennial rye-grasses, velvet grass, and the bent grasses. Because of the moist, mild climate, the grazing season lasts the greater part of the year (fig. 57). The improved pastures have a relatively high grazing capacity, the best pastures varying from one-half acre to 1½ acres per cow. The forest lands used for pasture, on the other hand have, in general, a very low grazing value, owing to the dense stand of trees. Most of the forest land is not pastured, and some that is pastured has a capacity of only one animal unit to 75 or 100 acres. The cut-over lands (fig. 62) will carry an animal unit on 25 to 35 acres.

The Western Range Region.

The western range region embraces practically all of that part of the country west of the 98th meridian, except the humid belt along the North Pacific coast. In the eastern part of this region lie the semi-

A SHORT-GRASS RANGE IN THE MOUNTAINS OF ARIZONA.

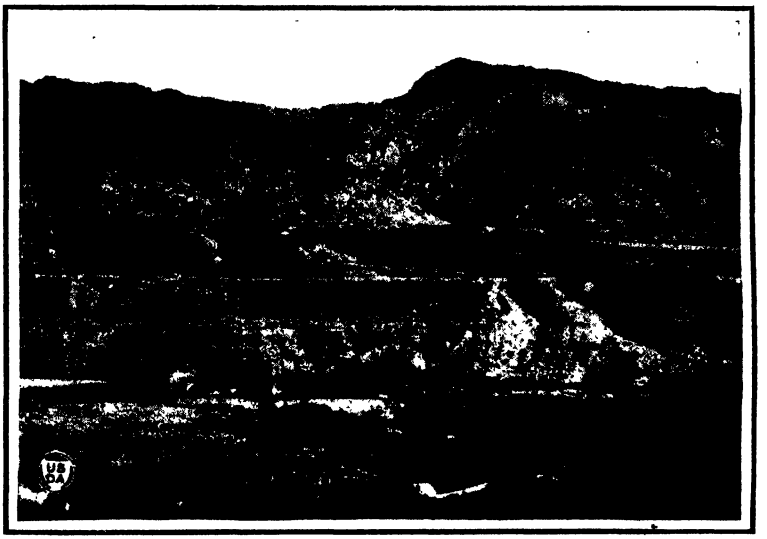
FIG. 67.—A "park" or open space in the yellow-pine forests of the higher plateau region of Arizona. Grama grass and other short grasses prevail, although some weeds and browse occur. These parks, which sometimes contain several hundred acres, are used mostly as summer range for cattle and sheep.

arid Great Plains, a vast expanse of grassland. Along the eastern edge of the plains tall prairie grasses prevail, but the greater part of the area is covered by short grasses, notably grama grass in the northern part, buffalo grass in the central plains, and mesquite grass south of the Red River. In the Rocky Mountains and other high mountain areas, where there is adequate moisture, forests and woodlands occupy much of the area. Scattered throughout these forests

are numerous parks or open places, which are covered with grasses and other herbaceous plants that furnish excellent summer grazing.

Between the Rocky and the Sierra-Cascade mountains is an arid intermountain region consisting mostly of high plateaus and basins, both cut through by narrow river valleys. Sage brush is the characteristic vegetation of the northern and central portions of this intermountain region, and creosote bush and cacti of the southern portion (fig. 53). The Columbia Basin is almost encircled by forested mountains. The Blue Mountains of eastern Oregon nearly cut off the Columbia Basin from the Great Basin to the south. On the higher plateaus of the Columbia Basin and on the foothills of the mountains to the north, east, and west of the Great Basin, the pasturage is largely bunch wheat grass. On the plateaus of western New Mexico and northern Arizona, short-grass vegetation prevails, mostly grama in the northern and mesquite grass in the southern portions (fig. 67).

The valleys of California, like the moister portions of the Columbia Basin, were originally covered with a bunch-grass vegetation. These native grasses were early overgrazed and largely destroyed. They have been replaced by annual grasses and other plants introduced



DRY FOOTHILL RANGE IN UTAH.

FIG. 68.—One of the numerous small valleys of Utah. These are best utilized in the production of hay and other crops that are fed in winter to the livestock using the surrounding range. The foothills furnish spring and fall grazing for the animals, and the higher mountain areas provide summer grazing.

from Europe, especially from the Mediterranean region. In the Cascade and Sierra Nevada Mountains, the highlands are covered with timber with numerous grassy parks intervening and alpine meadows above timber line. In the north, the eastern foothills of these mountains are covered largely with the bunch wheat grasses, but in the south both slopes at the lower levels are largely covered with thickets of woody shrubs, called chaparral.

The grazing season.—In the greater part of this region the livestock are grazed for as much of the year as possible, and the animals may travel many miles in going from one grazing ground to an-

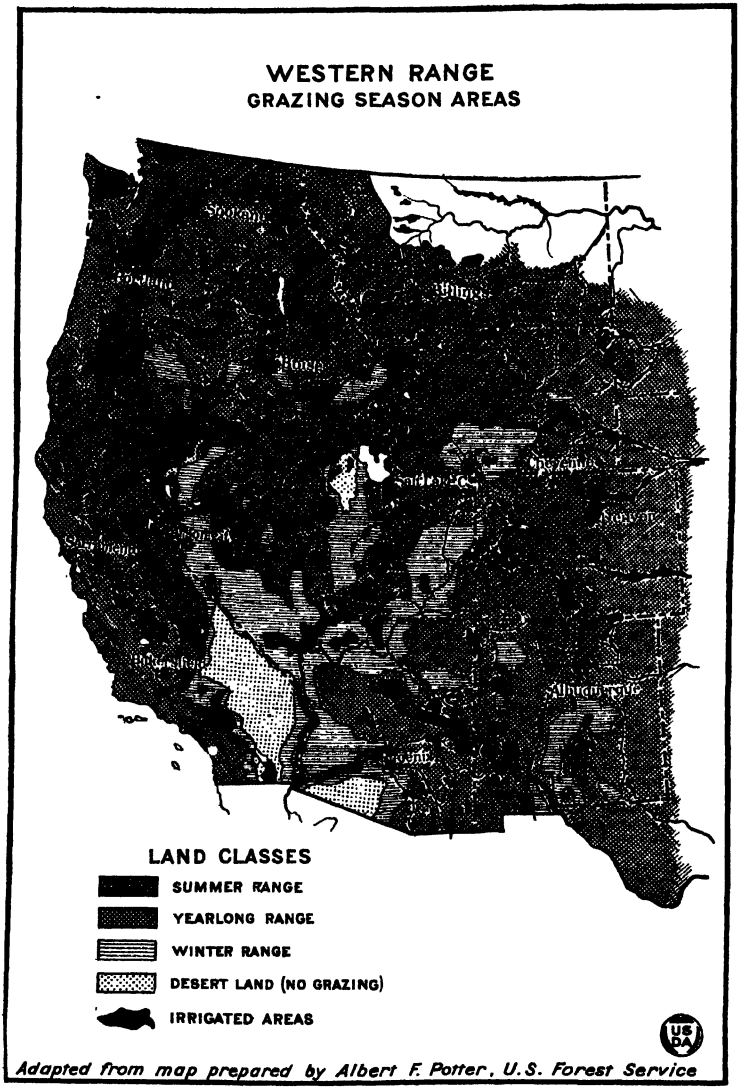
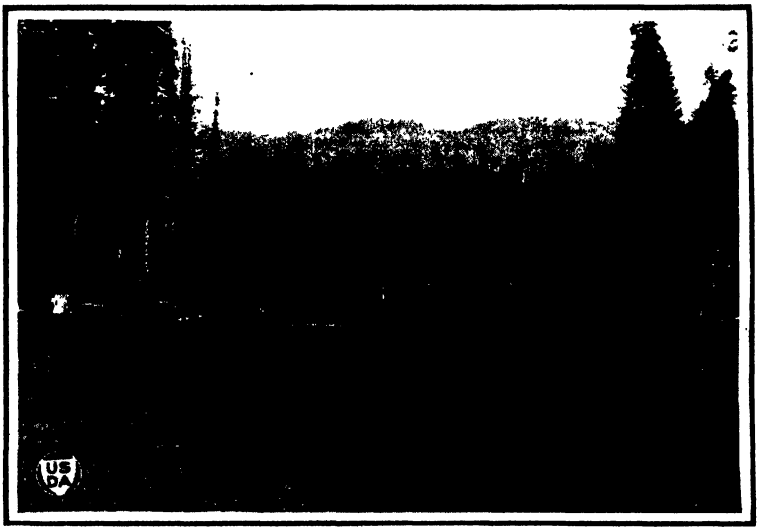


FIG. 69.—The great variety of climatic and soil conditions existing in the Western States results in very decided differences in the possible grazing seasons as well as the character and value of the herbage. The higher mountains furnish from 3 to 6 months of excellent grazing in summer (when the ground is free from snow). Although the foothills and plateau areas are available for grazing most of the year, the extent of the range is not sufficient generally to carry the animals grazing upon these areas for more than six to eight months without a change of pasture, except on the southern range. The desert or winter ranges, because of lack of water, are available to livestock, principally sheep, only during the winter months. Some of the Arizona-California desert region is, because of a lack of water, practically unusable for livestock. Much of the range livestock is now fed in irrigated valleys during the winter.

other. During the summer months much of the livestock is grazed in the mountains; the spring and fall months will find them in the foothills and higher plateau areas, and in winter many of them will be on the desert or semi-desert lands, in the irrigated districts, and on the stubble fields of the dry-farming areas. In areas where there is insufficient winter range, the animals are often fed for a period of from three to five months (fig. 68).

The time of the year that a given range area is grazed depends largely on when it is available for use and partly on the general system of livestock production followed. In general, the western range country may be subdivided according to the season of its availability as (1) summer range; (2) yearlong range, and (3) winter range (fig. 69).



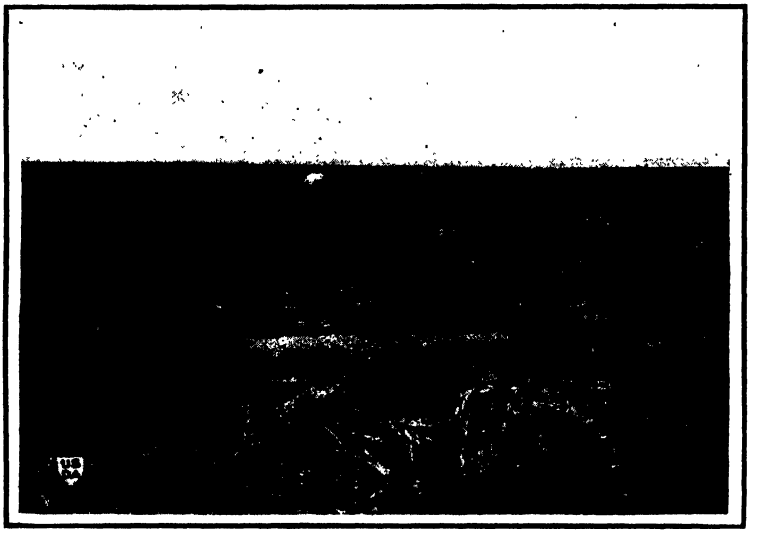
A MOUNTAIN MEADOW IN CALIFORNIA.

FIG. 70.—A typical mountain meadow (altitude 7,000 feet) in the Sierra Nevada. The meadows and surrounding open-timber areas furnish excellent summer grazing for cattle. The top of the ridge in the background is better adapted to sheep.

Summer range.—The summer ranges are mostly in the mountains and, because of the shortness of the growing season, are available only during the warmer months (fig. 70). The grazing season varies from approximately three months in some of the higher altitudes in the northern range States to about six months in the mountains of the Southwest. Most of these lands are in the national forests, although some summer grazing is obtained in forest areas belonging to lumber companies and others.

Yearlong range.—The "yearlong ranges" are those areas where grazing can be carried on during practically the entire year. Most of the yearlong ranges are covered with grass, and in the northern range States are fairly free from trees and brush. A large portion of the less rolling yearlong range in the northern Great Plains and Columbia Basin, where there is sufficient rainfall for the growing of crops, has in recent years been converted into farms.

In the semiarid Great Plains region the grazing season is now largely dependent on the farm practice. Formerly yearlong grazing prevailed throughout the region. The rapid settlement of much of this region in recent years has so greatly reduced the area available for pasture that it has generally become necessary to shorten the pasture season and resort to winter feeding. A ranchman who is primarily engaged in the production of livestock and who has extensive pasture lands will graze his animals throughout the greater part of the year and, except in unusually severe winters, will give them comparatively little supplemental feed. Under such circumstances the range is frequently divided into summer and winter pastures. On the other hand, a small farmer with a limited acreage and with only a small number of animals seldom has sufficient pasturage to last longer than six to eight months.



A TYPICAL SAGE-BRUSH RANGE.

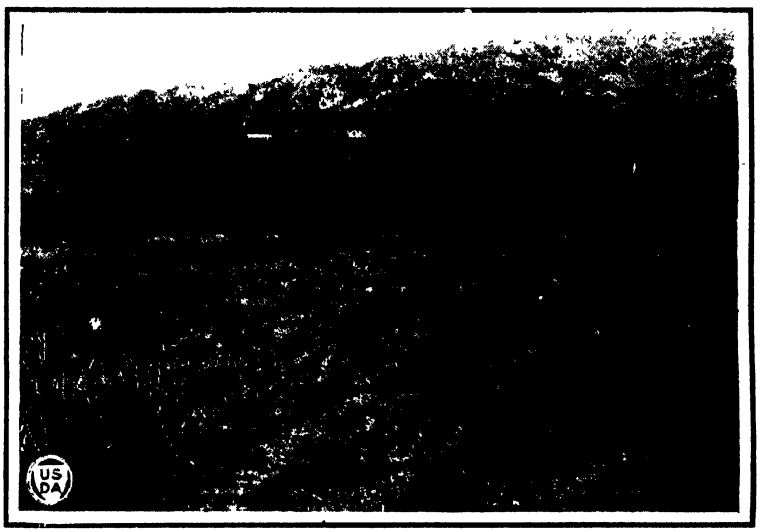
FIG. 71.—Characteristic sage-brush range of southeastern Oregon. Although such lands can be grazed the year round, they are now, because of insufficient range, mostly used during the spring and fall months. From 50 to 100 acres of such range are needed to carry a cow a year.

In the northern portion of the Great Basin the range, although it can generally be grazed throughout the greater part of the year, is now so restricted in area that it will carry only a part of the total livestock. For this reason it is generally reserved for spring and fall grazing, and serves to a large extent as an intermediate range for animals traveling between the summer range and the winter range or feed lots (fig. 71).

In the southern range States, where conditions are generally too arid for farming, there are still large areas of yearlong range (fig. 72). Here, however, it is often customary to use the higher levels during the warmer season, and the lower levels in winter. The distance traveled from one to the other is comparatively short, frequently being only a few miles.

Winter range.—The winter ranges are restricted mostly to the valleys and basins of the intermountain and southern range States, where the rainfall is light and where water or snow is available for livestock only during the winter months. The vegetation in such areas consists largely of shrubs and weedy annuals, many of which are not relished by cattle but are readily grazed by sheep. In the more northern desert areas the winter ranges are available for a 4- or 5-months' period, whereas in the Mohave-Gila desert the grazing period is usually restricted to a few weeks in the late winter and early spring. In case the spring rains fail, these latter areas are usually unavailable.

In the irrigated and dry-farming districts, much late fall and early winter grazing is obtained by giving the animals the run of stubble fields, the aftermath of hay fields, especially alfalfa, and by pasturing them on marshy lands. In fact, in California many of the sheep get their entire winter subsistence by grazing on crop lands after harvest, or in orchards and vineyards.



SEMI-DESERT RANGE IN ARIZONA.

FIG. 72.—Semi-desert grassland range with considerable browse. The grasses are mostly perennials that cure standing and the browse plants are usable at any time. Such lands are best used as yearlong range for cattle, though they are sometimes used temporarily for sheep when the adjacent desert range fails.

Carrying capacity.—Owing to the very diverse moisture and temperature conditions, the carrying capacity varies widely in different parts of the range region. It is shown in a general way in Figure 59, and is summarized for some of the more important grazing districts in Table 23. This table also indicates briefly the character of the pasture and duration of the grazing season.

TABLE 23.—*Character of forage and estimated capacity of the western grazing areas of the United States.*

Areas.	Chief forages.	Length of season.	Area to support a cow.
		Months.	*Acres.*
Northern Great Plains	Grama, buffalo, needle, and wheat grasses	5 to 10	10 to 30
Southern Great Plains	Grama, buffalo, bluestem, beard, and mesquite grasses; scrub oaks.	8 to 12	15 to 35
Black Hills	Grama, buffalo, and bluestem grasses	3 to 5	25 to 30
Central Rocky Mountains	Blue, fescue, wheat, brome, and redtop grasses; Baltic rush; and "weeds."[1]	3 to 6	15 to 25
New Mexico-Arizona mountains	Grama, fescue, beard, and wheat grasses; scrub oak, mountain mahogany.	5 to 8	12 to 25
West-central Montana foot hills and high plains.	Fescue, wheat, blue June, porcupine, brome, and grama grasses.	5 to 7	15 to 30
Northern Rocky Mountains	Pine, wheat, blue, brome, and fescue grasses	3 to 6	20 to 150
Central Idaho	Pine, wheat, brome, fescue, and blue grasses	3 to 7	25 to 30
Wasatch, Uinta, and Wyoming Mountains.	Wheat, porcupine, fescue, and blue grasses; blue-bells and other "weeds;"[1] browse.	3 to 7	8 to 25
Northeastern Nevada, southern Idaho, and central Oregon.	Wheat, blue, and fescue grasses; sagebrush, shadscale, greasewood.	4 to 8	35 to 40
East-central Nevada mountains	Wheat, blue, and fescue grasses; browse	4 to 6	25 to 50
Wyoming semideserts	Salt grasses; sagebrush, shadscale, greasewood	2 to 6	35 to 100
Utah, Nevada, Arizona deserts	Salt, grama, three-awn, and annual grasses; annual "weeds;"[1] sagebrush, winter fat, greasewood, shadscale, mesquite, palo verde, cacti.	2 to 5	50 to 150
New Mexico-Arizona foothills and basins.	Grama, tobosa, galleta, three-awn, muhlenbergia, and salt grasses; sagebrush, shinnery, and other browse.	4 to 12	15 to 75
San Luis Valley of Colorado	Blue, salt, and fescue grasses, Baltic rush; sage-brush	7 to 9	30 to 40
Utah foothills and valleys	Wheat, porcupine, and June grasses; sagebrush	5 to 7	20 to 30
Nevada semideserts	Salt, and lyme grasses; greasewood, shadscale, sagebrush.	1 to 4	75 to 150
Southeastern Oregon and Snake River plains.	Fescue, wheat, and lyme grasses; sagebrush	2 to 5	50 to 100
Columbia River Basin	Blue, fescue, wheat, lyme, and salt grasses; sage-brush, greaswood.	7 to 9	10 to 50
Eastern California mountains	Short, blue, wheat, needle, oat, and brome grasses; deerbrush and other browse.	3 to 6	15 to 35
Western Oregon mountains	Fescue, brome, wheat, pine, and bent grasses; deerbrush and other browse.	3 to 7	30 to 100
Southwestern California mountains.	Deerbrush and other browse	6 to 12	40 to 60
California, and southwestern Oregon foothills and valleys.	Browse; "weeds";[1] annuals, including wild oat, rye, brome, barley, and fescue grasses, bur and wild clovers; alfilaria.	6 to 8	15 to 50

[1] On the range "weeds" refers to miscellaneous herbaceous plants.

Improvement of Methods in the Western Range Region.

While the western range lands include over half of the grazing lands of the United States, they support at present only about one-third of the total livestock carried on pasture. This is largely owing to the prevailing arid conditions, but also much of the range land has been overgrazed and its carrying capacity greatly reduced. The experience of numerous ranchmen and the work of State and Federal investigators prove that these lands can be restored to their original carrying capacity and be thus maintained. The methods that have proved most effective deserve mention.

Avoidance of premature grazing.—The keeping of livestock from the range until the grass has had a chance to get a fair growth will tend to increase its total carrying capacity. On the national forests, the prevention of premature grazing has had much to do with range improvement.

Prevention of over grazing.—Not only is too close grazing harmful to the range, but it is usually reflected in the lack of gains made

by the animals. However, a pasture on which stock cattle are run can be slightly overgrazed without causing any appreciable effect on the animals. Whether a range is being overgrazed can generally be determined by watching the gradual disappearance of the grasses and their replacement by less desirable vegetation. Recent experiments with range pastures at Mandan, N. Dak., composed largely of grama grasses and needle grasses, lead to the conclusion that from 15 to 25 per cent of the foliage covering should remain on this type of pasture at the close of the season, if overgrazing is to be prevented. This conclusion applies also to ranges farther west covered with perennial bunch grasses.

Deferred grazing.—On some types of grasslands, notably in the mountains, the use of deferred grazing methods have resulted in great improvement. The plan is to permit the desirable grasses on a portion of the range to mature seed before grazing is commenced. Thus, quantities of seed are scattered and to some extent trampled into the soil.

Rotation grazing.—In the improvement of ranges it is a desirable practice to graze a series of pastures in a regular succession, leaving each year one field for deferred grazing. This method gives the grasses and other forage plants a better chance to reestablish themselves. Usually it is only necessary to defer the grazing on any particular area once in three years in order to maintain the stand of desirable plants. Sometimes it is desirable to use the same field for deferred grazing two years in succession.

Grazing with two or more kinds of animals.—Two or more kinds of animals are often used on the same range, either at the same time or in succession. In Texas it has been found on many ranches that a certain number of sheep and goats can be run in addition to the cattle without decreasing the number of cattle; in fact, in some instances the carrying capacity for the cattle has been slightly increased. On such ranges the sheep prefer the weedy plants that the cattle do not care for and prevent these plants from encroaching on the grasses. On some of the Texas ranges where there is much browse which neither sheep nor cattle relish, the addition of goats has been helpful in keeping the oaks and mesquite from crowding out the grasses.

Improved methods of grazing sheep.—An important step in improving ranges where sheep are run is to avoid having the animals "bed down" in the same place for more than two or three nights in succession. The constant traveling between the bed grounds and the grazing areas results in the destruction of much vegetation through trampling. It has also been found that sheep do much better and that less damage is done to the vegetation where, instead of being "close herded," they are allowed to scatter while grazing. In Texas it has been found that nearly twice as many sheep can be carried on the same area when they are allowed to run lose in fenced pastures than under the herding system.

Development of watering places.—The development of well-located and adequate watering places is important. Without plenty of water within a reasonable distance animals can not make satisfactory gains. The watering places should be so distributed, if possible, that cattle do not travel much over 2 miles in going to water, and in a very rough country not much over half a mile. Frequent watering places

aid also in preventing the formation of trails, which in time form rain channels and may lead to erosion. Well-located watering places are helpful also in opening up areas that were formerly but little grazed.

Proper distribution of salt.—On cattle ranges much can be done in equalizing the grazing by placing salt at suitable distances from the watering places and in such localities as to draw the cattle away from the heavily grazed areas to those only lightly grazed. Systems of salting have been found to be an excellent means of regulating grazing on unfenced ranges.

Building trails.—The grazing capacity of many ranges can be increased by building trails in rough country or through timber to open up numerous small areas which, because of their inaccessibility, are little grazed. Many stockmen have found that it is profitable to build trails which save the energy of the animals and prevent trampling of the vegetation.

The importance of introduced range plants.—The idea has often been expressed that better pasture plants can be found that will thrive in the different section of the western range country. Judging from what has happened in other parts of the country there are reasons for the belief that properly chosen introduced plants will greatly increase the carrying capacity of the range lands. In the northeast quarter of the United States the pastures are entirely made up of introduced grasses—bluegrass, white clover, redtop, timothy, etc.—all from Europe and all so aggressive that the native vegetation can not compete. In the South, Bermuda grass, carpet grass, lespedeza, Johnson grass, Dallis grass, and others have been of similar importance. In California 80 per cent of the lowland forage is now produced by introduced plants mainly from the Mediterranean region, such as wild oats, bur clover, wild barleys, alfilaria, and many others, all introduced by chance. Many of these plants are now spreading in the Columbia River Basin. It is true that some plants introduced by chance in each region are undesirable. However, by using proper precautions it is not likely that undesirable plants will be introduced.

Important results may be obtained in the range region by introducing desirable plants from regions with similar climatic conditions. For the most of our range lands the source is central Asia, from whence came alfalfa and sweet clover, the two most valuable forage plants of the West; also Russian thistle, rosy saltbush, and tumbling mustard, which have spread of their own accord over large areas of the ranges in less than 10 years. These last three plants are not particularly desirable, but there can be little question that excellent forage plants which will spread with comparable vigor can be found by intelligent search. There is every reason to expect that desirable wild range plants from central Asia will add as much wealth to the West as did alfalfa, the great cultivated forage from the same region. One of these, crested wheat grass, is already giving very promising results.

Seeding with tame-pasture plants.—The cultivated grasses and legumes now in use in this country are not adapted to the greater portion of the western range country. Excepting in the more humid areas, most of the seeding experiments have yielded poor results. The cheapest and apparently the best method of reseeding with native grasses is by the method of deferred grazing. In many of the

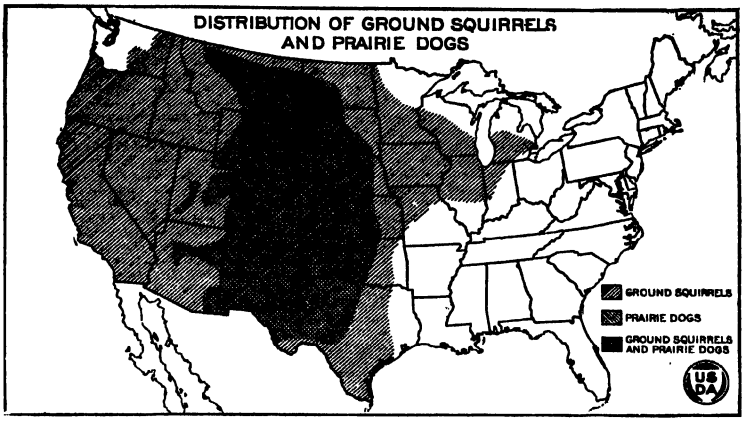


FIG. 73. Prairie dogs and ground squirrels eat the more valuable grasses throughout the area in which they occur. Where they are numerous pasturage is commonly reduced from 10 to 25 per cent and at times the forage value of infested land is entirely destroyed. Organized community campaigns have proven effective in destroying these animals and have resulted in marked betterment of the range.

mountain meadows, however, the conditions are very favorable for such plants as bluegrass, redtop, the fescues, and white clover, and it is highly probable that these plants will eventually become important in such areas.

Elimination of rodents.—In increasing the carrying capacity of the range, much can be accomplished by the destruction of the various rodents, particularly prairie dogs, ground squirrels, jack rabbits, pocket gophers, and mice. Prairie dogs and ground squirrels select the richer valley and bench lands, and are direct competitors with livestock for the use of the more palatable and nutritious forage (fig. 73). Prairie dogs often destroy the grass roots and denude

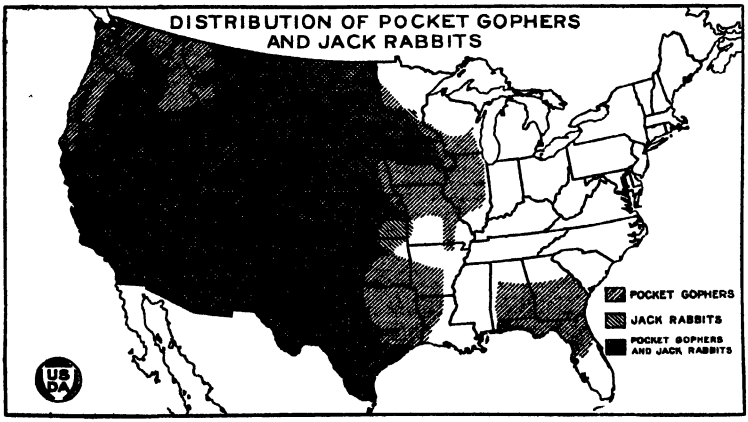


FIG. 74.—Jack rabbits often become excessively numerous over great areas and destroy much growing forage. As many as 10,000 are sometimes killed in a single organized drive. Pocket gophers greatly reduce the quantity of feed available by burrowing under ground, eating and breaking off grass roots, thus injuring the stand; and by piling up mounds of dirt which cover considerable areas of grass. They frequently so undermine the ground that the trampling of the burrows by livestock causes permanent injury to the range.

the lands, rendering them barren wastes occupied only by plants of little or no forage value and subjecting them to permanent damage by erosion. Their constant migrations into new feeding grounds result in the establishment of new towns and the extension of their devastation. Ground squirrels, because of their greater numbers and more general distribution (fig. 73), consume even larger quantities of grass.

Jack rabbits, which inhabit most of the range country (fig. 74), also subsist largely on the grasses. Their numbers fluctuate greatly from time to time, and consequently the amount of damage caused by them. Meadow mice and pocket gophers also destroy grass, and when numerous the gopher burrows interfere seriously with handling the livestock.

Effective and economical methods for poisoning and otherwise destroying these pests have been worked out, and extensive poisoning campaigns inaugurated in recent years in nearly all of the range States. These are conducted by the United States Department of Agriculture (Biological Survey) in cooperation with the various State agencies and organizations of stockmen and farmers. Several million acres of grazing land have been freed of rodents, and a marked increase in forage production has resulted. In Arizona a 3-year united effort on the part of over 800 stockmen cooperating with the Biological Survey to exterminate prairie dogs, was entirely successful, an area 120 miles long and from 10 to 20 miles wide being wholly freed of this pest.

The elimination of predatory animals and wild horses.—It is estimated that predatory animals, until recent years, took an annual toll of $20,000,000 to $30,000,000 worth of livestock on the western ranges. The Department of Agriculture (Biological Survey) is now cooperating with State and county officials and livestock associations in the destruction of these wild animals, approximately 500,000 having been destroyed since 1915 (see page 265 of preceding article, "The Sheep Industry"). The destruction of the large numbers of wild and practically worthless horses, which on some areas number thousands, would also increase the capacity of the range in many districts. Their presence not only decreases the number of valuable livestock, but they are an actual source of injury to the range. In many instances they are so wild and the country is so rough that it is impossible to round them up or remove them. Even if rounded up they have no commercial value, except for fertilizer or for poultry feed.

The elimination and avoidance of poisonous plants.—Poisonous plants cause heavy loss among western livestock, especially sheep and cattle. These losses are much more prevalent on the western ranges than on eastern pastures, because the animals graze in large herds and the plants sometimes grow in dense masses. It is important that livestock producers be able to recognize the poisonous plants, in order that so far as possible they may prevent their animals from grazing upon them. The most important are the death camases, milkweeds, larkspurs, and locoes.

Some of the milkweeds, which are rather widely distributed (fig. 75), are exceedingly poisonous. They kill not only sheep, but also many cattle and some horses. Larkspurs, which grow on all of the mountain ranges of the West, as well as in some of the Eastern

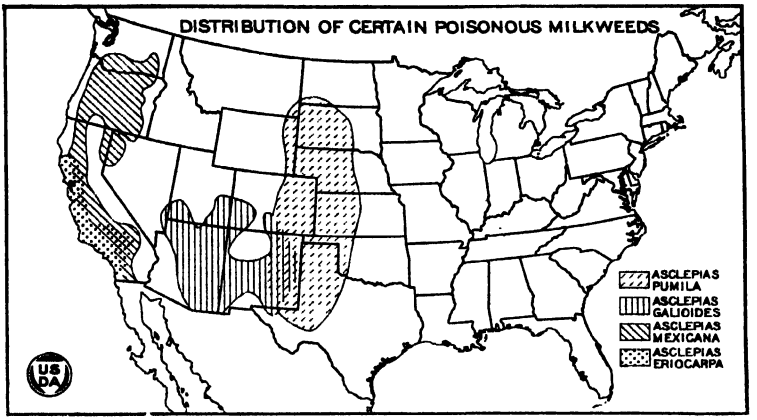


FIG. 75.—*Asclepias pumila*, *A. galioides*, and *A. mexicana* are all whorled milkweeds. The *A. pumila* grows in the Great Plains region and does comparatively little harm. The *A. galioides*, the worst of the whorled milkweeds, is confined to the Southwestern States, while *A. mexicana* is limited to Nevada and the Pacific Coast States. *A. eriocarpa*, the woolly-pod milkweed, is a broad-leafed milkweed of a specially dangerous character and is limited to the coastal region of California. These milkweeds are especially destructive to sheep.

States (fig 76), are the most dreaded by cattlemen of all of the poison plants. There are several kinds, but apparently all are poisonous. As cattle must eat about 3 per cent of their weight in order to be poisoned by these plants, scattered patches of larkspur do little harm. The plants sometimes grow in canyons in thick masses, and it is when hungry cattle drift into these places that heavy losses occur. The destruction of these large patches helps greatly to lessen losses. The saving of cattle resulting from the destruction of large patches of these plants in the national forests has much more than paid for the work involved. It is not feasible wholly to exterminate

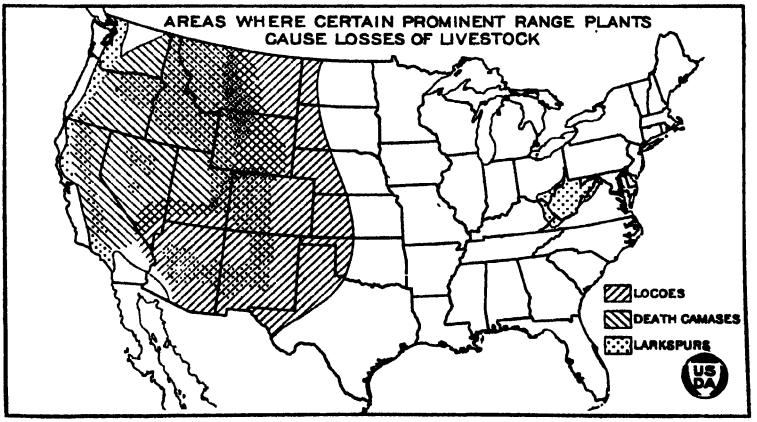


FIG. 76.—The locoes, larkspurs, and death camases are widely distributed in the western half of the United States. The death camases are particularly characteristic of the foothill regions. The larkspurs are largely mountain plants and are distributed over practically all of the western mountain regions and to a limited extent in the East. The locoes, which may be considered as the most destructive of all stock-poisoning plants, are characteristic of the Great Plains region.

larkspur, but the danger from it can be greatly lessened. As horses and sheep are not poisoned by larkspur some of the infested ranges can be used by these animals.

The locoes, which have perhaps caused more losses than all the other poisonous plants combined, are widely scattered throughout the Great Plains country (fig. 76). Of the several different species, the white loco or rattle weed, the purple or woolly loco, and the blue loco are the most important. Much of the area where these plants occur has been taken up for farming purposes within the last few years, and the losses though still large are much less than formerly. It has been shown to be profitable to dig out the loco plants in inclosed pastures, but there is no feasible method of controlling loco trouble on the open range.

Not only is it important to know which plants are poisonous, but also that, generally speaking, the greatest losses usually occur at times of feed shortage. Losses seldom occur when the animals have sufficient good pasturage.

Control of Grazing Lands in the Western Range Region.

The majority of livestock producers in the northern half of the range country now own or lease the greater part of their grazing lands. During the past 20 or more years they have purchased large areas of railroad lands and patented homesteads. They have also leased considerable areas of State, Indian, and lumber company lands. A large proportion of the stockmen depend on running as many as possible of their cattle and sheep on the national forests during the summer months. Those who have access to the unrestricted public domain usually try to use these lands for a part of the year. As there is generally insufficient range for all, a large number of them now depend on feeding their animals for from three to five months of the winter.

In the southern range States (excluding Texas, where all the lands are privately owned) the percentage of land owned by livestock producers is considerably less. This is owing largely to the greater aridity of the land, so that the inducement for homesteading has been less. It is also partly because much of the land is too unproductive to justify any great expenditure in acquiring control of it. However, the majority of the producers own, in addition to a headquarters ranch, at least sufficient land on which water can be developed, so that they can control the remaining range. Many of these men lease large areas of railroad, State, and Indian lands. A large number of them depend on grazing a part of their stock on the national forests for at least a part of the year. They also use considerable areas of the remaining free range. For the most part they do not use supplemental feeds, except during periods of severe drought.

Control of the Federal, State, and Indian Lands.

About half of the western grazing lands are publicly owned or controlled. These may be classified according to their control, as State lands, Indian lands, national forests, and unreserved, unappropriated public domain.

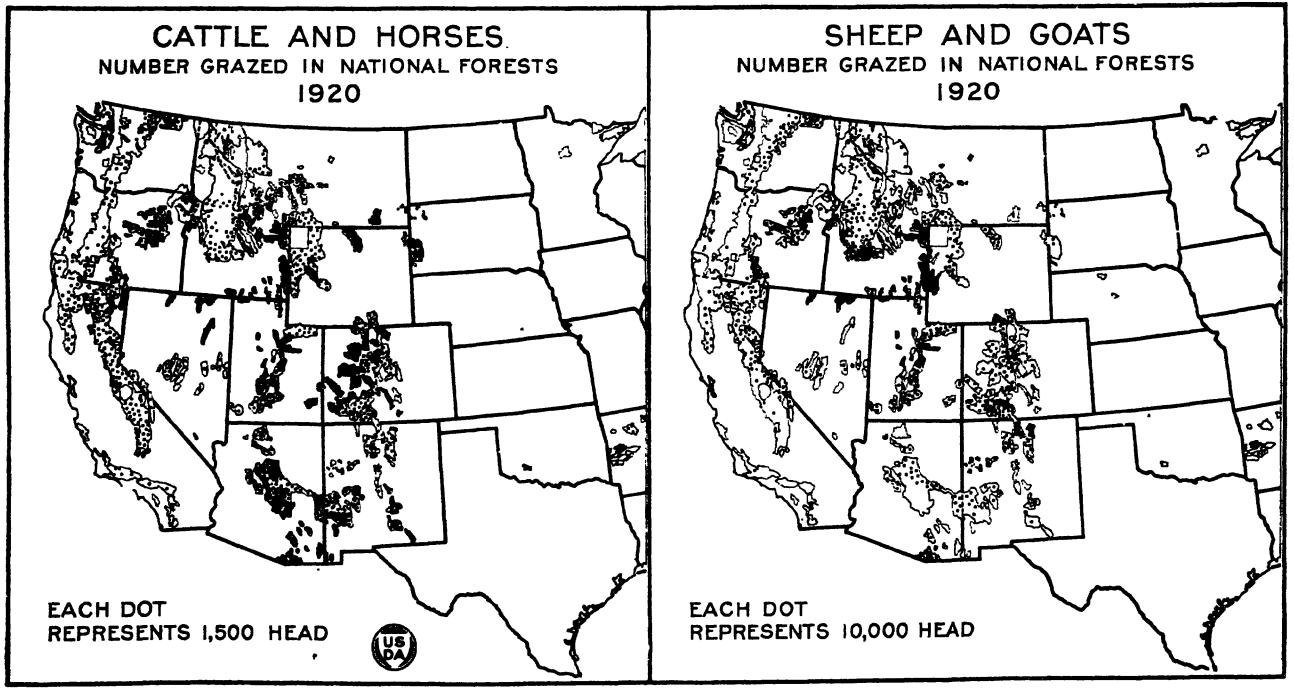


FIG. 77.—Approximately 2,250,000 cattle and horses (animal units) and over 7,000,000 ewes with about three-fourths as many lambs are grazed annually on the national forests. This is about one-fifth of the cattle and one-third of the sheep in the 11 far Western States. In the more northern forests permits are issued in periods ranging from three to six months, while on some of the southern forests yearlong permits are granted. The average length of grazing season is probably not far from six months.

State lands.—The State lands are areas ceded by the Federal Government to the States for various purposes and are generally scattered in small tracts throughout the entire region. Those not suitable for farming purposes are generally leased for a term of years by stockmen.

Indian lands.—Much of the land lying within the Indian reservations that is not suitable for farming purposes, or is not used by the Indians, is leased to cattle and sheep men, usually in large tracts. In order to prevent overgrazing, the leases usually specify the number of stock that are to be grazed.

The national forests.—The national forests occupy about 133,000,000 acres of the western range region. Of this it is estimated that about 100,000,000 to 110,000,000 acres furnish more or less grazing. These forests were primarily established for the maintenance of a supply of timber and to protect the forest cover which regulates the flow of streams. Grazing as well as all other uses of the forests must of necessity be subservient to these two fundamental needs. However, their use for grazing purposes is now very important to the livestock industry, as nearly two-thirds of the grazing lands that can be used only in the summer in the 11 far Western States lie within these areas (fig. 77).

As the number of livestock listed in applications for the use of these grazing lands is much in excess of the number of animals that can be supported, and in order that farmers and graziers may have opportunity to use the range in proportion to their needs, it has been necessary to establish certain restrictions. Preference is given to United States citizens who own and reside on improved ranch property which is dependent on the national forests, and who own stock within certain exemption limits. These exemption limits vary according to the district. Maximum limits are also established, which, in general, are 400 cattle and 2,500 to 4,000 sheep in the Northwest, and usually 2,000 cattle or 8,000 sheep in the Southwest. Second choice is given to prior users who do not own improved ranch property, and persons owning such property who own stock in excess of the established exemption limit. These are largely men whose main source of income is from livestock.

The grazing permits are granted for periods of one or five years for a definite number of animals, which are, so far as possible, assigned to definite areas. In general the fees charged are less than those charged for the use of similar pasturage in the immediate vicinity.

Public domain.—This area now includes 180,000,000 acres, located mostly in the Arid Intermountain Region and in the Southwest. These unappropriated lands have a rather low carrying capacity, as the best estimates indicate that at the present time 55 acres of such land, on the average, are needed to carry a steer for six months. These lands have been subjected to years of misuse until they have deteriorated greatly in carrying capacity.

One of the important problems connected with the better utilization of the western ranges is that of the control of the remaining "unappropriated and unreserved" public domain. It is essential that, with a steady growing population, such areas instead of being destroyed, should ultimately be developed to their highest carrying capacity. It is also equally important that the present users, many

of whom are in a precarious financial condition, be given some legal means of control over these lands and thus promote the stabilization of the industry. Under existing conditions they are unable to do this, for any regulations they may attempt among themselves are ineffective, as they can not be enforced.

Practically all of this land can be used only as grazing land, and because of its low grazing capacity it must be used in large units. There are, however, no laws that will permit the use of these grazing lands, either permanently or temporarily, by the stockmen in areas sufficiently large to make their use profitable. Associated with these public lands in the belts included in the railroad grants are similar grazing lands owned in alternate sections that have passed to private ownership. These are subjected to the same low standard of management as the uncontrolled public lands because of the lack of properly designed legislation.

Livestock producers and scientific investigators are in agreement that the control of the remaining public arid grazing lands and subdivision of the range into proper-sized units by means of fences, provided the value of the range justifies the expense, is sure to bring about an increased productivity of the land and marked improvements in the organization of the range livestock industry. Such control would not only result in stopping the deterioration of the range lands which is now going on, but would also lead to a great increase in the present grazing capacity and, consequently, in the quantity of animals and animal products.

Several methods for the stabilization of the open range have been suggested. Among these are the following: (1) Sell the remaining lands; (2) continue the policy of enlarging the area granted as a grazing homestead; (3) lease the lands; (4) consolidate private and Federal holdings by exchange; (5) give the remaining Federal lands to the States in which they lie; and (6) establish a permit system somewhat similar to that used in the national forests. Each of these policies has its own limitations, its own advantages and disadvantages. None of them is new; all have been tried to some degree.

The method of selling the land is that adopted by Texas long ago with fairly satisfactory results. In the other Western States, where any Government land remains unappropriated and unreserved, ownership of land not to exceed 640 acres by an individual can now be secured under the present grazing homestead act. There are, however, certain limitations as regards the areas subject to entry under this act. The leasing system is that used on most Indian reservations and on State lands. The method of grazing permits is that used in the national forests with satisfactory results. Much of the unappropriated public domain is winter range which must be used in conjunction with the summer range in the national forests.

It is greatly to the interest of every State and individual concerned that the range lands be utilized at their highest permanent efficiency, and that the livestock industry of the West be stabilized. These lands constitute a great national resource and it is manifestly to the interest of all concerned that legislation be enacted which will permit their most efficient use.

Economic Importance of Farm Pastures.

The proportion of farm land in pasture varies greatly with the region and also with the type of farming. Over half of the total farm land of the country is used for pasture during a portion of the year, and practically a third of the land is used solely for pasture. However, only 10 per cent of the farm area was classified in the census of 1909 as improved pasture. The amount of pasture land in farms in that year varied from a little over 9 per cent in North Carolina, South Carolina, and Georgia, where but little attention is given to pasture, to 83 per cent in Nevada, where agriculture is primarily based on the production of livestock.

For nine scattered localities located mostly in the northern humid region, in which farm-survey records have been obtained, the amount of pasture varies from 21 per cent of the farm area for the farms surveyed in Clinton County, Ind., and Chester County, Pa., to about 50 per cent in Washington County, Ohio, Mercer County, Pa., and Hillsboro County, N. H. (Table 24). In Hillsboro County the acreage in pasture was double that in crops, and in Mercer and Washington Counties it exceeded that in crops. In the Iowa counties, on the other hand, the pasture acreage varied from 45 to 75 per cent of that of the crops.

The kind of pasture also varied widely, depending largely on the character of the country. In the Hillsboro district nearly all the pasture land was untillable, 40 per cent of it being in woodland. The Mercer County district, where dairying leads, and the Washington County area, where general livestock farming prevails, are also quite hilly. Although 28 per cent of the pasture land in Washington County is classified as tillable land, it is kept in permanent pastures in order to prevent erosion. In the Chester County district half the pasture was tillable, half untillable. The country is rolling. Milk is produced for Philadelphia and as much of the land as possible is kept in crops. However, some of the bottom lands, which are heavily fertilized, furnish luxuriant pasturage. Clinton County, Ind., and Tama County, Iowa, being in a comparatively level country, have large areas in crops, especially corn. In these counties rotation pastures, which constitute about 12 per cent of the farm area, fit in advantageously with the cropping system and furnish grazing for the hogs and beef cattle which are fattened on the corn. In the Dane County, Wis., district, dairying and hog raising are the leading enterprises. Here half of the land is in crops, 15 per cent is in rotation pasture, and 20 per cent in other kinds of pasture.

TABLE 24.—*Proportion of total farm area in crops and in pasture in nine farm-survey districts in the northern humid region.*[1]

District.	Farms.	Year.	Average farm area.	Farm area in crops.	Farm area in pasture.				
					Rotation pasture.	Permanent pasture tillable.	Permanent pasture untillable.	Woods pasture.	Total pasture.
	Number.		*Acres.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Hillsboro County, N. H.[2]	136	1918	130	25	.....	3	8	40	51
Chester County, Pa.[3]	378	1911	90	61	4	6	10	1	21
Mercer County, Pa.[4]	349	1916	101	47	.....	13	30	10	53
Lenawee County, Mich.[5]	300	1911	104	57	10	8	6	9	33
Dane County, Wis.[6]	60	1913-17	148	55	15	4	7	9	35
Washington County, Ohio[7]	14	1912-22	157	29	2	28	19	1	50
Clinton County, Ind.[8]	100	{1910 {1913-19}	127	74	12	2	.....	6	20
Tama County, Iowa[9]	209	1918	219	65	13	9	6	2	30
Warren County, Iowa[10]	183	1918	177	52	4	18	13	5	40

[1] Table furnished by H. W. Hawthorne, Division of Farm Management, Bureau of Agricultural Economics.
[2] Dairy products constituted 39 per cent, poultry 19 and apples 12 per cent of the total farm receipts.
[3] Dairy products constituted 39 per cent, hay 14, potatoes 9, wheat 8, and poultry 8 per cent of total farm receipts.
[4] Dairy products constituted 26 per cent, cattle 24, poultry 10, and hogs 8 per cent of the total farm receipts.
[5] Dairy products constituted 24 per cent, hogs 12, wheat 7, and poultry 6 per cent of the total farm receipts.
[6] Dairy products constituted 49 per cent, hogs 28, cattle 14, and poultry 4 per cent of the total farm receipts
[7] Cattle constituted 21 per cent, poultry 19, hogs 12, and sheep 11 per cent of the total farm receipts.
[8] Hogs constituted 41 per cent, corn 13, oats 12, and cattle 10 per cent of the total farm receipts.
[9] Hogs constituted 43 per cent, cattle 18, and corn 13 per cent of the total farm receipts.
[10] Hogs constituted 43 per cent, cattle 19, and wheat 14 per cent of the total farm receipts.

Relation of Cost to Pasture Rental.

Pasture Rental.—Studies made by the Department of Agriculture[17] to determine as accurately as possible the relation of pasture costs to pasture rentals are available for 182 farms in 10 districts (Table 25). In these studies the permanent pastures have generally been valued at considerably less than the crop lands. These values, which include fence investment, vary from $34 for the Montana district to $139 for Cottonwood County, Minn. In the Wisconsin district the permanent pasture is valued at a little less than half that of crop land. Rotation pastures range in value from $113 in the South Dakota district to $160 in the Cottonwood County, Minn., district. In computing interest charges on these values, conservative mortgage rates have been used. The figures show that almost no money was spent for pasture equipment or for maintaining or improving these fields.

TABLE 25.—*Acreage and value per acre of land in pasture per farm, 1922, for 182 farms in 10 districts.*

State.	County.	Number farms.	Total acreage per farm.	Acres in pasture.			Value per acre, dollars.		
				Permanent.	Rotation.	Total.	Permanent.	Rotation.	Total average.
Kentucky	.....	23	236.6	36.2	24.9	61.1	.....	.....	137.20
Ohio	Greene	20	155.4	13.2	21.6	34.8	100.00	125.00	115.53
Ohio	Medina	15	131.0	38.7	.....	38.7	68.43	.....	68.43
Wisconsin	Walworth	23	141.6	39.9	6.5	46.4	65.33	138.63	75.61
Minnesota	Steele	[1] 20	186.6	42.7	2.4	45.1	127.25	140.00	127.90
Minnesota	Cottonwood	[1] 19	170.0	38.5	.5	39.0	138.81	160.00	139.00
South Dakota	Kingsbury	20	289.2	18.5	15.1	33.6	103.13	113.06	107.58
Kansas	Jackson	17	206.6	75.8	.....	75.8	101.57	.....	101.57
Kansas	McPherson	17	308.2	50.0	.....	50.0	122.67	.....	122.67
Montana	Gallatin	8	326.50	96.84	.....	96.84	34.00	.....	34.00

[1] In 1921.

[17] These studies were made in cooperation with the agricultural colleges in the several States.

The slight variation in the various costs in the districts studied is noteworthy (Table 26). Interest charge varies more than any other factor, ranging from $2.48 in Gallatin County, Mont., to $7.27 in Steele County, Minn. The Montana district has the lowest average cost, but the greatest range in costs of any of the 10 districts. This is owing to the fact that while most of these farmers are using cheap land for their pastures, there are others pasturing high-priced irrigated land. The Minnesota counties have relatively high costs per acre in comparison with the other areas shown. In Steele County this is the result of the land charge and in Cottonwood County of a rather high fencing cost. The miscellaneous costs are interesting, in that they show how little is spent for pasture maintenance or improvement.

TABLE 26.—*Pasture costs per acre, 1922.*

County and State.	Fences.[1]					Land charges.			Miscellaneous costs.	Total costs.	Range in costs.	
	Man and horse labor.			Cash outlay.	Total.	Interest.	Taxes.	Total.			High.	Low.
	Man hours.	Horse hours.	Cost.									
Kentucky					$0.32	$6.86	$1.07	$7.93		$8.25	$16.69	$3.12
Greene County, Ohio	1.65	.67	$0.58	$1.11	1.69	5.76	1.24	7.00	$0.03	8.72	13.35	6.26
Medina County, Ohio	.93	.15	.30	.23	.53	3.42	.75	4.17	.01	4.71	10.76	2.60
Walworth County, Wis.	1.59	.46	.45	.39	.84	3.78	.93	4.71	.01	5.56	9.47	1.74
Steele County, Minn.	2.83	1.07	.60	.14	.74	7.27	.85	8.12	.03	8.89	10.84	6.11
Cottonwood County, Minn.	2.28	.71	.90	.72	1.62	6.55	.81	7.36	.01	8.99	13.21	7.82
Kingsbury County, S. Dak.	2.43	.77	.64	.38	1.02	6.45	.79	7.24		8.26	11.71	2.96
Jackson County, Kans.	1.78	.72	.45	.19	.64	4.07	.80	4.87	.01	5.52	12.13	1.42
McPherson County, Kans.	2.54	.54	.72	.17	.89	4.91	.53	5.44	.01	6.34	8.98	5.40
Gallatin County, Mont.					.20	2.48	.17	2.65	.01	2.86	16.05	1.19

[1] Fencing costs include both the cost of replacement and repairs.

The rental from these pastures (Table 27) is derived by charging each class of livestock for the use of pasture at current monthly pasture rates in the community. In none of these districts did the rental of the pastures equal the cost, when interest is included on

TABLE 27.—*Relation of the charge for pasturage to total feed cost per farm and rental return per acre for regular pastures.*

	Total charge for feed and pasture per farm.	Total pasture charge (including fall pasture.)[1]	Total rental from regular pasture per farm.[2]	Per cent total pasture charge was of total feed cost.			Per cent regular pasture charge was of total feed cost.			Rental returns from regular pasture per acre.		
				Average.	High.	Low.	Average.	High.	Low.	Average.	High.	Low.
Kentucky	$1,941.21	$471.21	$378.95	24.4	53.7	10.9	19.7	45.0	8.0	$6.20	$15.77	$2.36
Ohio:												
Greene County	2,536.79	354.31	193.76	14.0	20.4	8.3	7.6	14.1	1.3	5.57	8.96	3.24
Medina County	1,892.53	210.60	162.78	11.1	18.9	6.6	8.6	15.5	.4	4.20	10.70	2.80
Minnesota:												
Steele County	2,268.29	182.06	175.13	8.0	15.5	2.8	7.7	15.5	1.6	3.89	6.89	2.04
Cottonwood County	2,412.20	232.97	224.47	9.7	18.0	6.8	9.3	18.0	5.6	5.76	14.66	2.52
South Dakota, Kingsbury County	1,890.51	249.88	191.06	13.2	17.3	9.2	10.1	16.4	5.9	5.69	11.60	3.15
Kansas:												
Jackson County	2,047.58	311.74	166.48	15.2	26.6	9.0	8.1	16.9	3.2	2.20	12.90	.72
McPherson County	1,175.67	165.48	132.60	14.1	33.8	3.5	11.3	24.1	2.2	2.65	12.80	.91
Montana, Gallatin County	1,573.18	313.85	267.78	16.6	30.9	11.3	14.2	29.8	11.0	2.77	12.00	1.20

[1] Fall pasture includes aftermath of hay meadows, stubble fields, corn stalks, etc.
[2] Regular pasture includes only the farm area that is fenced and used to carry stock throughout the entire summer.

the appraised land values. In fact, in only two districts, Gallatin County, Mont., and Medina County, Ohio, was the rental sufficient to cover interest charges at current rates on the capital invested.

While the annual rental rates of these pastures did not return a sufficient income to meet all costs, nevertheless, in most of the

PASTURE COST AND RENTAL VALUE PER ACRE, 10 COST-OF-PRODUCTION AREAS, 1922.

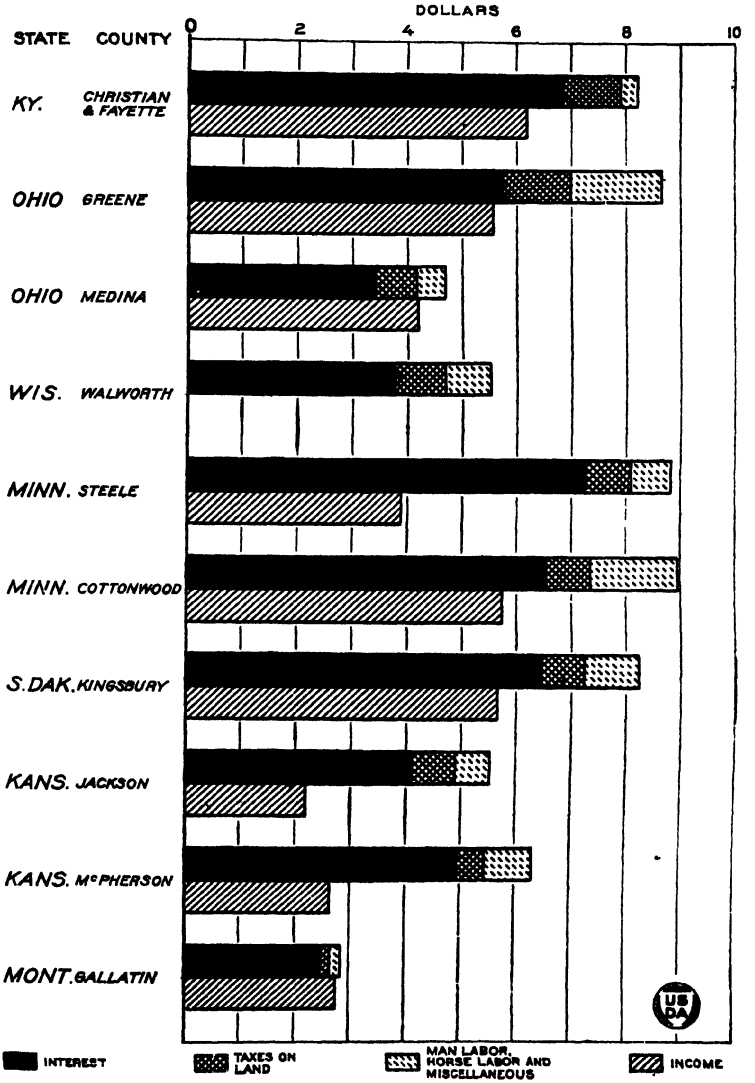


FIG. 78.—In only two districts, Gallatin County, Mont., and Medina County, Ohio, does the rental value equal the interest charge. In these two districts it very nearly equals the annual pasture costs. In Steele County, Minn., and the two Kansas districts the rental value was very low. In the other areas there seems to be a fairly close relationship between the rental and the interest charge. Taxes, as may be expected, show about the same relative fluctuation as interest.

areas the return on land investments, after all other costs had been deducted, compared favorably with the usual returns on land devoted to crops. In Medina County, Ohio, for instance, pasture rental was sufficient to return 4.4 per cent upon the value of land after the maintenance and fencing costs had been cared for. In Montana the pasture rates charged against livestock returned 3.8 per cent on the land valuation; pastures in South Dakota returned 3.6 per cent, and those in Kentucky 3.5 per cent. Although these

FREQUENCY OF PASTURE COSTS AND RENTAL VALUES PER ACRE, NINE COST-OF-PRODUCTION AREAS, 1922.

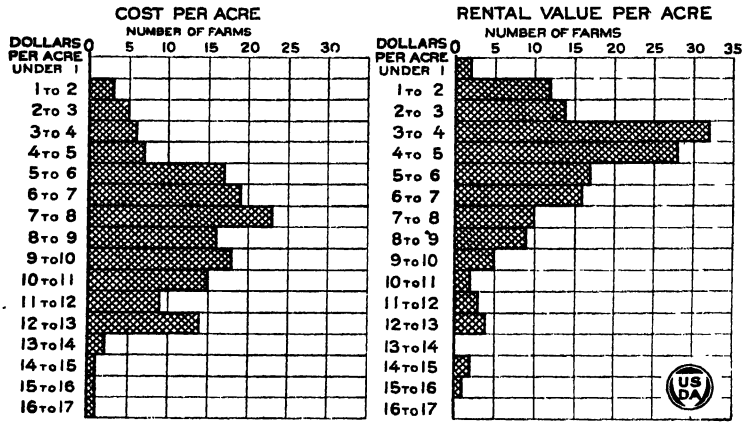


FIG. 79.—There is wide variation in the pasture costs, these ranging from a little over $1 per acre to almost $17. The normal cost, however, seems to center around $6 to $8, which was the average cost for 25 per cent of the farms. The income per acre had very nearly the same range. The normal income, however, was between $3 and $5, 38 per cent of the farms falling in this group.

returns are not high, it will be remembered that often a large proportion of the land used for pasture is of such a character that it can not be put to other productive uses. Furthermore, the low interest return realized on capital invested in pasture is, in part at least, offset by reduction in the labor cost necessary in caring for livestock while on pasture.

The average rental charge for permanent or rotation pasture per farm varied from $133 in McPherson County, Kans., where it constituted about 11 per cent of the feed bill, to $378 in Kentucky, where it made nearly one-fifth the total (Table 27). In addition to the regular pasture the animals on most of the farms were given the run of the crop land in the fall. The value of the grazing obtained from aftermath, stubble fields and cornfields varied greatly. It averaged $7 and $9 per farm each for the two counties in Minnesota. In Green County, Ohio, it averaged $160, or 45 per cent of the total pasture charge, and in Jackson County, Kans., $146 (fig. 80). This variation in the value of crop land pasturage is due to the length of pasture season, the amount of permanent and rotation pasture available, the kind of forage in the pastures, and the livestock kept. Work horses and hogs did not use pastures to the same extent as did cattle and sheep.

The length of the grazing season greatly influences the extent to which pastures are utilized in different areas and upon different farms. This is one reason why the Kentucky district leads the others both in the proportion of total feed cost represented by pasturage and in the average rental return per acre. The Minnesota counties were low in the ratio of pasturage to total feed cost, but compare

PERCENTAGE THAT PASTURE COST WAS OF TOTAL FARM FEED COST, NINE AREAS IN 1922.

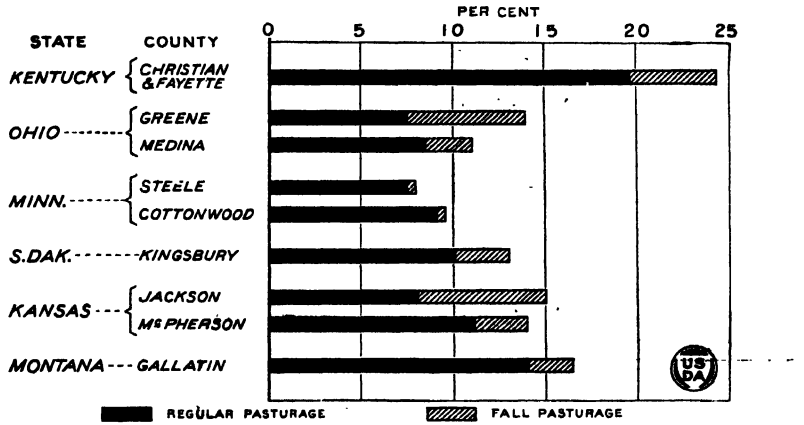


FIG. 80.—Pasture rental constituted less than 10 per cent of the total feed bill for the two Minnesota districts, where this charge was very low. In both these districts but little value was assigned to the grazing obtained from the crop fields after harvest. In Kentucky the pasture charge was nearly 24 per cent of the total feed bill. In the Green County, Ohio, and Jackson County, Kans., districts fall pasturage on crop lands was a very important source of cheap feed.

favorably with other similar areas in the per cent of feed derived from regular pastures. Farmers in those counties are not so extensive users of fall pastures as those in Kentucky, Ohio, and Kansas. In Kansas the extensive use of fall pasturage is in part responsible for the very low rate paid for regular pastures.

Economic Importance of Pasture on Dairy and Beef Cattle Farms.

The proportion of the total sustenance furnished by pastures on dairy and beef producing farms studied by the Department of Agriculture is much greater than the income from these pastures would indicate. In the seven districts where studies were made concerning requirements for the production of market milk, pasturage furnished very nearly one-third the total sustenance for the cows (Table 28). On these same farms the pasture cost was only one-seventh of the total feed cost.

Records secured for the years 1914–1916 on 478 Corn-Belt farms which produced beef calves, showed that the breeding cows obtained their entire living from pasture for 200 days and from roughage and concentrates for 165 days. The total annual feed bill for these cows was $24 of which pasture constituted $8.50. In other words pastures which were furnishing a little over half the total sustenance were credited with only one-third of the feed bill.

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The above figures would indicate that farm pastures are generally contributing more of the total sustenance of livestock than the value assigned to them would indicate. Partly because of the low rental value generally assigned to pasture, and also because many of the pastures, especially the mismanaged ones, do not produce as much feed per acre as when crops are grown on the land, there is a tendency to believe that pastures which are arable should be plowed up and put into crops. Many persons, however, do not take into consideration the much greater expense attached to the growing of crops. Unquestionably, there are conditions under which arable pasture lands should be put to more intensive use. On the other hand, there are also conditions where some of the crop land should be in pasture. These factors depend partly on topography and soil conditions, partly on distance from market and partly on labor conditions. There is much hillside land being used for crops which is gradually being eroded, and which in the course of time will be completely ruined. From the standpoint of long-time usefulness such land should be conserved by being kept in grass as much of the time as possible.

TABLE 28.—*Feed units per dairy cow obtained in a year from concentrates, roughage, and pasture in seven widely scattered districts.*[1]

State and time of study.	Year.	Number of cows.	Feed units per cow.				Average production of milk per cow per year.	Feed units per pound of milk.	Per cent of total feed furnished by pasture.	Per cent of total feed cost represented by pasture cost.[3]
			Concentrates.	Roughage.	Pasture.[2]	Total for year.				
							Pounds.			
North Carolina (1915–17)	First	301	1,711	2,046	1,170	4,927	4,908	1.004	23.7	7.1
	Second	256	2,486	2,216	856	5,558	4,922	1.129	15.4	5.2
Indiana (1915–17)	First	334	1,898	2,295	1,481	5,674	6,877	.825	26.1	17.5
	Second	404	1,902	2,454	1,400	5,756	6,987	.824	24.3	11.5
Vermont (1916–19)	First	444	999	2,255	2,184	5,438	5,415	1.004	40.1	10.6
	Second	403	1,023	2,381	2,134	5,538	5,111	1.083	38.5	9.6
Washington (1917–20)	First	533	937	2,216	2,062	5,215	7,369	.707	39.5	24.2
	Second	514	1,297	2,393	2,284	5,974	8,323	.717	38.2	20.7
Nebraska (1917–20)	First	268	1,510	2,418	1,336	5,264	5,806	.906	25.3	19.8
	Second	266	1,221	2,617	2,170	6,008	5,843	1.028	36.1	22.3
Louisiana (1918–20)	First	452	2,079	281	282	2,642	2,994	.882	10.6	10.6
	Second	441	2,452	332	546	3,330	3,263	1.020	16.4	5.9
Delaware (1919–21)	First	249	1,994	1,404	2,077	5,465	5,556	.983	38.0	11.9
	Second	282	1,467	1,465	2,220	5,152	5,326	.967	43.0	20.0
Total		5,147						Av.	29.6	14.1

[1] Table compiled by J. B. Bain, Market Milk Specialist. Data obtained from studies of requirements for producing milk conducted by Dairy Division, Bureau of Animal Industry.

[2] The feed units obtained from pasture were figured by using the feed-unit consumption of the same cows during the winter. According to this method, pasture furnished an average of 8.78 feed units per cow per day.

[3] The cost of pasture was based upon the interest on the value of the land, taxes, upkeep of fences and similar items.

The principle of recurring effeciency is also involved in determining the proportion of the farm area that should be kept in pasture. When a farm is too large for one man to handle efficiently, but is not large enough to justify the hiring of an additional man, it generally would not pay to develop such a place to a 2-man intensity. Under such conditions the area to be kept in pasture is the amount in excess

of what the one man can handle efficiently. The same rule applies on farms needing two or three men and so on up, except that as the number of men increases the proportional amount of land kept in pasture would tend to narrow.

Value of Pastures in the United States.

Estimates of the rental value of pastures in the United States and the sustenance supplied by them, as compared with the value of the crops fed to livestock and the sustenance supplied, leads to the same conclusion as the farm survey records—that pasture is a very cheap source of feed. After making liberal estimates of the rental value of the various classes of pasture itemized in Table 22 it appears that the aggregate rental value of these 1,132,000,000 acres of pasture in 1919 did not exceed $1,000,000,000.[18] This averages about 90 cents per acre, or nearly $10 per animal unit for a 6-months' grazing season. The farm value of crops fed to livestock, on the other hand, was nearly $8,000,000,000 (fig. 6). Inasmuch as the sustenance supplied by pastures was nearly equal to that supplied to livestock by the crops, it is evident that pasturage is a very cheap source of feed.

Crops in 1919 commanded a very high price, their aggregate value in that year being nearly three times the value in 1909 and over twice the aggregate value in 1923. Rental value of pasture, on the other hand, is more conventional and less fluctuating. However, after making allowance for the lesser response of pasture to the high price levels of crops and livestock existing in 1919, it appears probable that the annual value of the crops fed to livestock is at least three to four times as great as the rental value of all pastures. Many millions of acres of pasture lands are remote from market and hence are held at a low price, other vast areas are too rough or too dry for the production of crops and have no other competing use. Other areas are free range, as on the public domain of the West, or almost free range, as in the forest and cut-over lands of the South. Yet after these and other factors have been taken into account, it is evident that our pastures have not been given due credit by the farmers and graziers for the feed which they supply.

[18] These rental values are based on cost of production and other surveys and on reports of the Forest Service and the Commissioner of Indian Affairs. The rental value in normal years is considerably less than this amount.

Bulletins Relating to Hay, Fodder, and Pasture.

The Department of Agriculture has available for distribution a number of bulletins which deal with methods of production, management and utilization of hay and fodder crops and of pastures, including the western ranges. These publications can be secured free in small numbers from the Division of Publications, Department of Agriculture, or may be purchased in quantity at the prices quoted below from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Hay and Fodder.

Farmers' Bulletins. (Free from United States Department of Agriculture if supply permits; otherwise, 5 cents each from Superintendent of Documents.)

1125. Forage for the Cotton Belt. 1283. How to Grow Alfalfa. 1229. Utilization of Alfalfa. 757. Commercial Varieties of Alfalfa. 1158. Growing and Utilizing Sorghums for Forage. 973. The Soy Bean: Its Culture and Uses. 886. Harvesting Soy Beans for Seed. 1148. Cowpeas: Culture and Varieties. 1153. Cowpeas: Utilization. 515. Vetches. 967. Purple Vetch. 690. The Field Pea as a Forage Crop. 1276. Velvet Beans. 969. Horse Beans. 1365. Clover Failure. 1339. Red Clover Culture. 797. Sweet Clover: Growing the Crop. 820. Sweet Clover: Utilization. 836. Sweet Clover: Harvesting the Seed Crop. 1151. Alsike Clover. 1142. Growing Crimson Clover. 579. Crimson Clover: Utilization. 646. Crimson Clover: Seed Production. 693. Bur Clover. 730. Button Clover. 1143. Lespedeza as a Forage Crop. 990. Timothy. 1048. Rhodes Grass. 1126. Sudan Grass. 1130. Carpet Grass. 814. Bermuda Grass. 726. Natal Grass. 1254. Important Cultivated Grasses. 1433. Cultivated Grasses of Secondary Importance.

Department of Agriculture Bulletins. (Free if supply permits; some can be secured from Superintendent of Documents at price quoted.)

981. Sudan Grass and Related Species (out of print). 1260. Sorghum Experiments in the Great Plains (in press). 1244. Forage Crops in Relation to Agriculture of the Northern Great Plains (in press). 439. Utilization of Soy Beans (5 cents). 1174. Hungarian Vetch (5 cents). 876. Hairy Vetch Seed Production in the United States (10 cents). 617. Australian Saltbush (5 cents). 1045. The Sunflower as a Silage Crop (10 cents).

Pasture and Range.

Department of Agriculture Bulletins. (Free from Department of Agriculture if supply permits; available in quantity from Superintendent of Documents at prices quoted.)

545. Important Range Plants (40 cents). 791. Plant Succession in Relation to Range Management (15 cents). 700. Climate and Plant Growth in Certain Vegetative Associations (15 cents). 201. Native Pasture Grasses of the United States (15 cents). 772. The Genera of Grasses of the United States (40 cents). 626. Pasture Land on Farms in the United States (10 cents). 1170. Effects of Different Systems and Intensities of Grazing Upon the Native Vegetation at the Northern Great Plains Field Stations (15 cents). 728. Certain Desert Plants as Emergency Stock Feed (10 cents). 575. Stock Poisoning Plants on the Range (50 cents). 592. Stock Watering Places on Western Grazing Land (5 cents). 1001. The Relation of Land Tenure to the Uses of Our Grazing Land of the Southwestern States (15 cents). 790. Range Management on the National Forests (35 cents). 827. Cut-over Pine Lands in the South for Beef Production (15 cents).

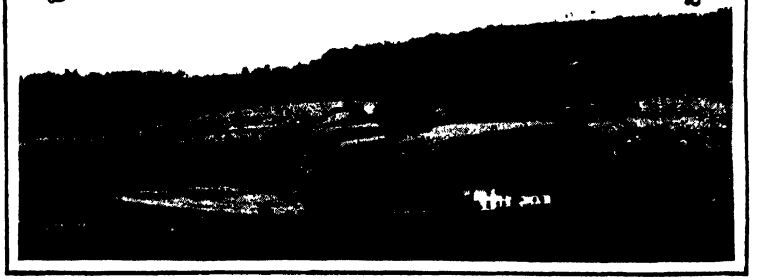
Miscellaneous.

Atlas of American Agriculture. Zon.—Natural Vegetation Section. (In press.)
Yearbook, 1921. Separate No. 874. Our Beef Supply. (20 cents.)
Yearbook, 1906. Separate No. 419, Range Management.

Bulletins no longer available, except in libraries.

B. P. I. Bull. 201. Natural Vegetation as an Indicator of the Capabilities of the Land for Crop Production in the Great Plains Area.
B. A. I. Bull. 91. Feeding Prickly Pear to Stock in Texas.
Department of Agriculture Report 110. Livestock Production in the Eleven Western Range States.
Forest Service Circular 178. The Pasturage System of Handling Range Sheep.
Division of Forestry Bull. 15. Forest Growth and Sheep Grazing in the Cascade Mountains of Oregon.

The UTILIZATION OF OUR LANDS FOR CROPS, PASTURE AND FORESTS



By L. C. GRAY, O. E. BAKER, F. J. MARSCHNER, and B. O. WEITZ, *Bureau of Agricultural Economics*, and W. R. CHAPLINE, WARD SHEPARD, and RAPHAEL ZON, *Forest Service*.

THE DOMINANT characteristic of American economic life has been abundance of land resources. The assumption of this abundance has colored our habits of thought and become the essential foundation for our economic policy, both individual and public. This national tradition was first seriously challenged by the conservation movement, which caused our people to pause and consider whether our amazing population growth and two centuries of exploitation of natural resources might have altered the outlook. However, that movement directed attention principally to the forests, mineral resources, and water powers, whereas the object of this article is to consider our present situation and future outlook in regard to our resources available for growing the food and raw materials that must be supplied by our crop lands, pastures, and forests.[1]

This will involve (1) a summary of our present land resources and of the extent and character of present uses, and (2) an estimate of future requirements—particularly those of the next few decades—and the relation of these requirements to the potential area available for the various uses.

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[1] This article grew out of the work of the Land Utilization Committee appointed by the Secretary of Agriculture in 1921. The contribution of C. V. Piper, Bureau of Plant Industry, a member of this committee, has been included in the preceding article, "Our Forage Resources." S. J. McCrory, Bureau of Public Roads, a member of the committee, provided much of the basic data for the map of wet lands (fig. 8), and C. F. Marbut, Bureau of Soils, much of the basic data for the map of forest and cut-over land available for crops without drainage (fig 9) and for the map of land physically suitable for forest only (fig. 13). Suggestions concerning the economic value of wild life as a consideration in land utilization were made by W. L. McAtee, Biological Survey. L. C. Gray, Chairman of the Committee, was in general charge of the preparation of this article. Many of the estimates of land area were made by O. E. Baker, who acted as secretary to the committee. Dr. Sewell Wright, Bureau of Animal Industry, who was not, however, a member of the committee, prepared the maps in this article showing the quantity of livestock by counties, 1850–1920 (figs. 22 to 29); C. W. Warburton, Director of Extension Work, contributed to the discussion of the means of increasing crop yields; and W. N. Sparhawk, Forest Service, furnished valuable assistance in checking the various estimates.

The three principal agricultural uses of the land are for crops, for pasture, and for forest. It is important to consider these three uses jointly, because they are partly competitive and partly complementary in their land requirements. Thus, a large part of the humid land of the United States is physically capable of being employed for each of these three uses. The arid or semiarid land is

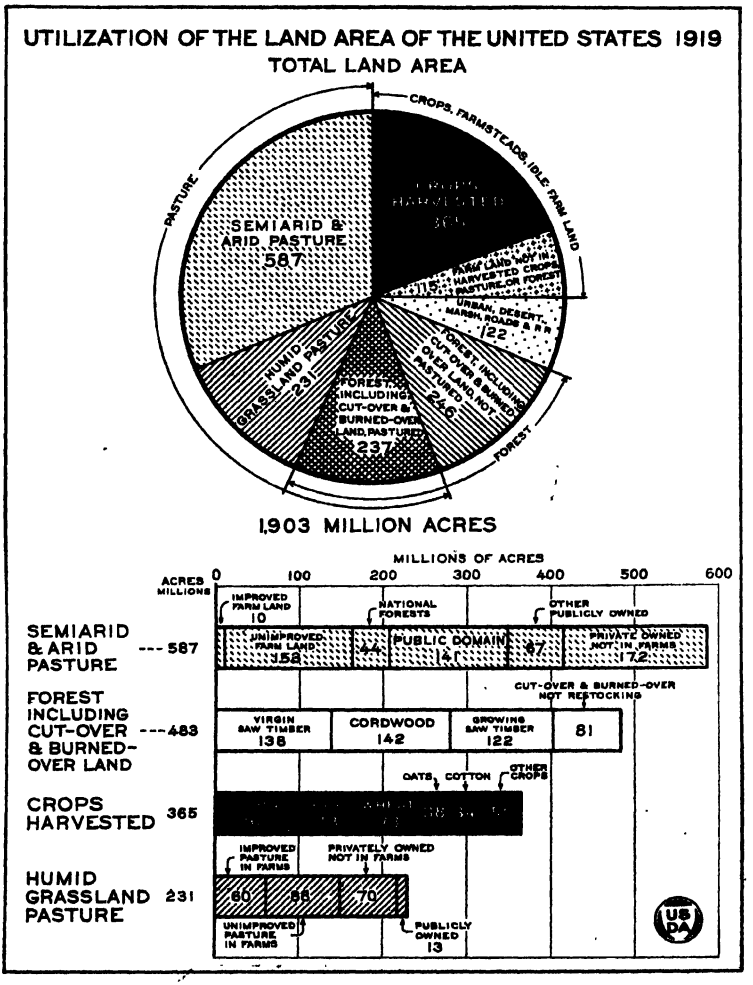

FIG. 1.—Crops harvested in 1919 occupied 10 per cent of the land area of the United States. Pasture (excluding both temporary crop pasture and forest land used incidentally for pasture) occupied 43 per cent, and forest and cut-over land about 25 per cent of the total area. However, the fifth of the land area in crops yielded a vastly greater annual product measured by value than the two-thirds in pasture and forest. The remaining 13 per cent of the land area was almost equally divided between land in farms not used for crops, pasture, or forest (mostly crop land lying idle, crop failure, farmsteads, lanes, and waste areas), and nonagricultural land outside farms (mostly urban land, absolute desert, rocky areas, and land used for roads and railroads). Many of the figures in the graph are estimates.

not suitable for growing forests,[2] but nearly all of it may be employed for grazing; and the portions where rainfall, topography, and soil are suitable, may be used for crops. Again, the three uses are in part complementary, for much of our forest lands may be used at the same time for grazing, and our crop land may generally be improved by including pasture in the crop rotation. Furthermore, crops and pasture are alternative sources of feed for livestock.

Present Uses of Our Land Resources.

No attempt at a complete economic classification of the land area of the United States has ever been made. Consequently, in the following discussion it has been necessary to rely largely on estimates made by the writers of this article.[3]

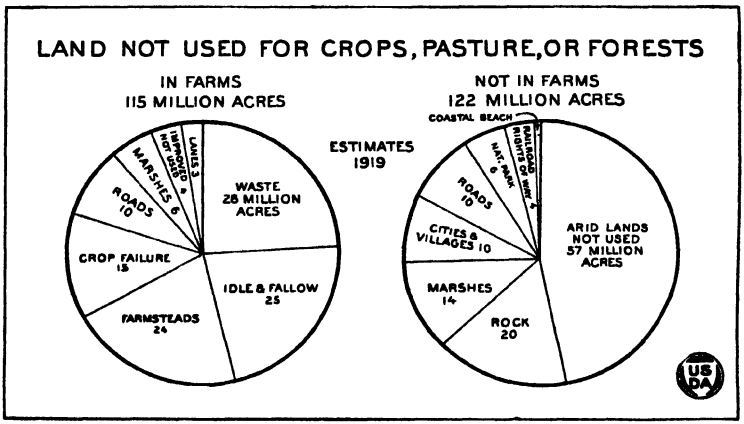

FIG. 2.—The total area shown by the two circles as not at present employed for crops harvested in 1919, pastures or forests is 237,000,000 acres, almost equally divided between land in farms and land not in farms. It should be noted, however, that the items under land in farms includes an estimated 15,000,000 acres of crop failure in 1919, which was a very dry year in the spring-wheat region of the Northwest, and an estimated 25,000,000 acres of crop land lying idle or fallow. If these 40,000,000 acres are subtracted there remain only 75,000,000 acres of land in farms not used for crops, pasture, or forests. The 6,000,000 acres of national parks include about 3,000,000 acres of forest, which is not utilized as such. Of the entire 237,000,000 acres of such land in farms and not in farms it is estimated that about one-half is physically capable of use in the future for crops, pasture, or forest.

The estimated division of our total land area of approximately 1,903,000,000 acres,[4] from the standpoint of the present uses of the surface, is summarized in Figure 1.

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[2] In certain parts of the semiarid territory scrubby forests of mesquite and live oaks, or of piñon pine and juniper occur. This arid woodland may be of considerable value in supplying fence posts and fuel. Also along the borders of streams, species characteristic of humid regions are found.

[3] These estimates are derived as far as possible from calculations based on census statistics, on reports and maps prepared by the Soil Survey and the Forest Service, and on the field notes and plats in the General Land Office. These materials were supplemented by information obtained from various sources, especially the Division of Agricultural Engineering (Drainage Investigations), of the Bureau of Public Roads, the Geological Survey, and various State surveys. More complete data have made necessary changes in certain rough estimates previously issued of the present and potential uses of land.

[4] The land area of the United States is 1,903,289,000 acres. In the following discussion the round number is used, and the various estimated subdivisions of the entire are are made to total 1,903,000,000.

Land Not Used for Crops, Pasture, or Forest.

It will be noted that, of the total area, only about 237,000,000 acres, or a little over 12 per cent, are not already in use for crops, pasture, or forest (fig. 2). More than half of this land, about 122,000,000 acres, is outside the boundaries of farms, while about 115,000,000 acres are land in farms not employed at present for any of the three uses mentioned. However, this last includes an estimate of 15,000,000 acres of crop land not harvested, because of crop failure, and an estimate of 25,000,000 acres of crop land idle or fallow.[5]

Of the 237,000,000 acres not used at present for harvested crops, pasture, or forest, it is estimated that less than one-half may some time be employed for one or more of these purposes, leaving 134,000,000 acres that can not be employed for crops, grazing, or forests in the future, either because devoted to other uses or because physically unsuitable.[6]

Thus, it appears that there is an area of less than 1,800,000,000 acres (1,769,000,000) capable of being used for either crops, pasture, or forest, although for part of it some form of reclamation would be necessary. Ultimately, of course, the increase of population will require the employment of somewhat larger areas of land for cities and villages, roads, and farmsteads. When the maximum population of the Nation is attained, it is probable that about 35,000,000 acres more may be needed for these uses, reducing

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[5] The various classes of land outside the boundaries of farms and not employed for crops, pasture, or forest were estimated as follows: City area was estimated by finding the density per square mile for a number of representative cities for which the area was known, classifying these by size, and then dividing the factor of density into the population living in incorporated places of each class. The estimates were made by States. Area in public roads was estimated by multiplying the mileage of various classes of roads in each State by estimates of average width of these roads supplied by the Bureau of Public Roads. Since the estimates were obtained as of 1914, about 2,500,000 acres were added for increase in the area devoted to public roads. In reporting the area of farms to census enumerators, farmers living in the regions where the rectilinear system of survey prevails frequently give the total area originally in the tract without making deduction for the area devoted to public roads. Thus, a 160-acre farm from which a portion was subtracted for roads is very commonly still reported as 160 acres. On this account, the estimate of 20,000,000 acres in public roads was arbitrarily divided equally between the area in farms and the area not in farms. The area in farms is less than the area not in farms, but it contains a much larger proportion of the roads. The area of unused desert land is a rough estimate, based on such information as could be obtained in the Department of Agriculture and from the Land Classification Board of the United States Geological Survey. The area of rocky peaks and rock outcrop is merely a rough estimate based on the ruggedness of the country. The area of coastal and interior marshes not pastured or cut for hay and not in farms is computed from soil survey maps, topographic sheets, coast survey charts, etc., and includes 7,500,000 acres in tidal marshes and 6,500,000 acres in sweetwater marshes. The estimate of 1,000,000 acres of coastal beaches is derived from the same sources. The area of national parks is an official figure, and the area of railroad rights of way was obtained by multiplying the railroad mileage, courteously provided by the Interstate Commerce Commission, by an estimated average width of the rights of way.

The various items included in the 115,000,000 acres of land in farms not used for crops, pasture, or forests were estimated as follows: Various local surveys have indicated that a little less than 4 acres per farm is occupied by what may be called "the farmstead"; that is, the land occupied by buildings, barn yards, feed lots, etc. On this basis and the number of farms, the area in farmsteads is estimated at about 24,000,000 acres. The area in private lanes and roads not used for grazing or in timber was roughly estimated by assuming an eighth of a mile per farm, 2 rods wide. The acreages of crops not harvested because of crop failure and of crop land lying idle or fallow are based on partial results of a tabulation of this census inquiry now being made by the Bureau of the Census in cooperation with the Bureau of Agricultural Economics (Division of Land Economics). The estimate of marsh lands in farms is based in part on soil surveys and in part on the census. The item of idle and fallow crop land is a rough estimate based on incomplete tabulations of replies to a census question on this subject. The item on waste land is a residuum.

[6] Most of the items in this total of 134,000,000 acres have been mentioned. They include the following in round millions of acres: Public roads, 20; cities and villages, 10; railroads, 4; national parks, 6; farmsteads, 24; lanes in farms, 3; sandy beaches, 1; rocky peaks and other rocky outcrop areas, 20; land too arid for grazing and nonirrigable, 30; marsh and swamp land of no potential value for any of the three uses, 16.

the area ultimately available for crops, pasture, and forest to approximately 1,734,000,000 acres of land.[7]

Land Now Used for Crops, Pasture, and Forest.

About 1,666,000,000 acres, or 94 per cent of the 1,769,000,000 acres available for crops, pasture, and forest, are now employed for one or more of the three uses (fig. 1).[8] However, very large areas are of low productiveness and will be always, even allowing for future progress; and other large areas are greatly under-used.

Thus, it is estimated that 587,000,000 acres, or nearly a third of the total available area, are arid or semiarid pasture and range. All of this land is in the West. For the most part, the carrying capacity is very low, requiring an estimated average of 24 acres to maintain an animal unit for the grazing season. In spite of the enormous magnitude of the area, amounting to more than six times the farming area of Germany before the World War, it is estimated that in 1920 it supplied pasture for the grazing season sufficient to maintain without supplemental feed only a little more than 24,000,000 animal units,[9] or about 22 per cent of the total livestock on farms and

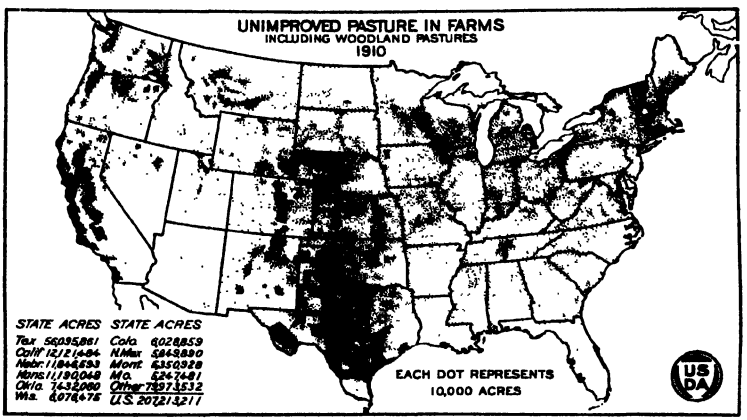

FIG. 3.—The largest acreage of unimproved pasture in farms, including woodland pastures, as reported to the census enumerators in 1910, was in the subhumid to arid Great Plains region, notably in Texas, and in the valleys and plateaus of the Pacific Coast States. In addition to the unimproved pastures in farms in the West there is a much larger acreage of similar but usually more arid land not in farms. Since 1910 a large area of range land in the West has been added to the farming acreage. Large acreages of unimproved pasture will also be noted in the steeply rolling to rough lands of the upper Mississippi Valley and in the hilly New England States. Similar information was gathered in the 1920 census, but has been tabulated as yet only for a few States.

ranges in the United States. Allowing for the winter feed needed, this pasture and range land supplied approximately 16 per cent of the sustenance needed during the year by all livestock.

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[7] It is probable that the area of cities, roads, railways, and farmsteads will not increase so rapidly as the increase of population.

[8] Includes 15,000,000 acres of crop failure.

[9] The animal unit is a means of measuring the feed requirements of livestock. It is the equivalent of a mature horse, cow, or steer, 5 hogs, 7 sheep or 100 poultry. For very young animals double the equivalent of an animal unit for mature stock of the same kind is allowed. On semiarid grazing land the ratio is more properly 3 to 5 mature sheep to each cow.

A small part of this area of semiarid and arid pasture (about 44,000,000 acres, much of which is piñon-juniper and chaparral) is included in the national forests (see top bar of figure 1). This area is used for grazing under careful regulations which make for efficient use. Another area subject to public restrictions is the semiarid grazing land included in Indian reservations. About 141,000,000 acres of semiarid grazing land are in the unreserved public domain, and are used as an unrestricted grazing commons, which results in the most inefficient utilization and which has caused a great deterioration in the quality of the range. Somewhat better employed are the 67,000,000 acres of other publicly owned land, mostly belonging to the States, and the 172,000,000 acres privately owned but not in farms. However, over much of this land the range is almost as badly overgrazed as in the public domain. The 163,000,000 acres in farms, of which 10,000,000 are reported improved, are not subject to the devastating effects of competitive grazing by rival stockmen;

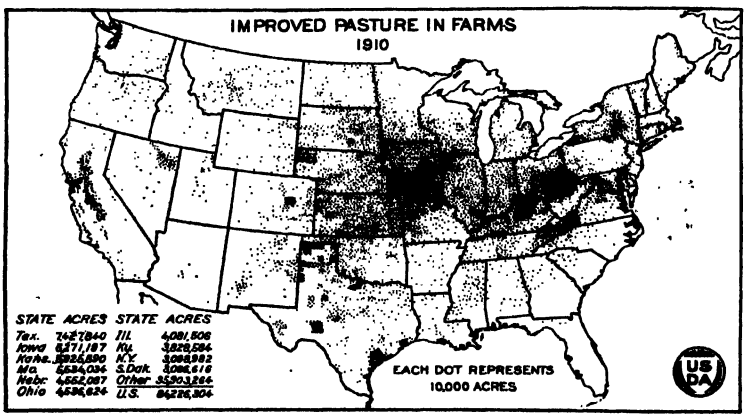


FIG. 4.—The largest acreage of improved pasture in 1910 was in the upper Ohio Valley, the western portion of Corn Belt, the southern part of the hay and dairying region, and the eastern portion of the Great Plains; in other words, in the best general farming and livestock-producing sections of the United States. The concentration of pasture acreage shown in certain Texas counties in the map above, and also in Figure 3, is largely due to the census reporting total acreage of ranches as being located in the same county as the ranch headquarters are located, and includes, therefore, ranch land lying in adjacent counties. These maps are based on a special tabulation of the census schedules made by the Department of Agriculture and published in department Bulletin 626.

but, for the most part, the ranchers have not developed conservative methods of using their land (fig. 3).[10]

Humid grassland pasture—that is, humid pasture other than woodland—occupies an area estimated at 231,000,000 acres, with a carrying capacity averaging about one animal unit per 5 acres. Of this area about 60,000,000 acres are improved pastures in farms (fig. 4), consisting mostly of rotation pastures and permanent seeded pastures with an estimated average carrying capacity of one animal unit to 2½ acres for a 6-month season. About 88,000,000 acres are unimproved pasture in farms (fig. 1), with an average carrying capacity estimated at one animal unit to 5½ acres.[11] The

[10] For method of estimating the area and carrying capacity of pasture in the United States see the preceding article, "Our Forage Resources," p. 369.

[11] See discussion of pasture land in preceding article entitled "Our Forage Resources."

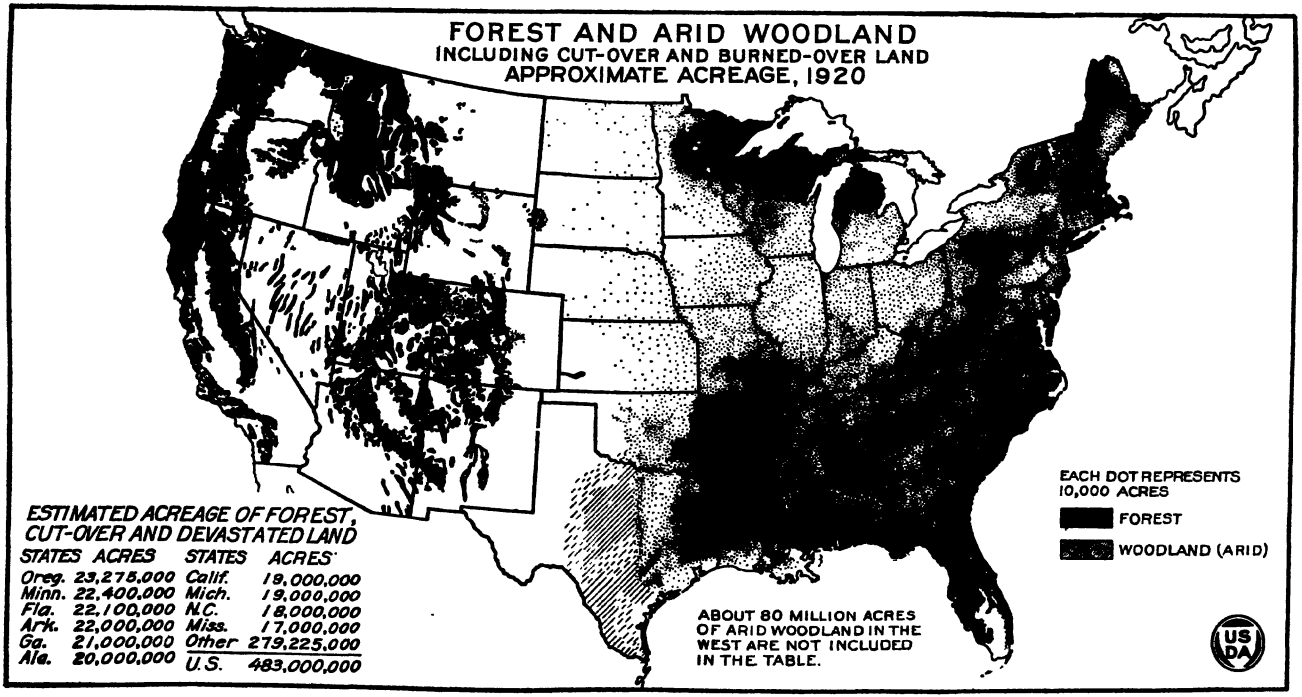
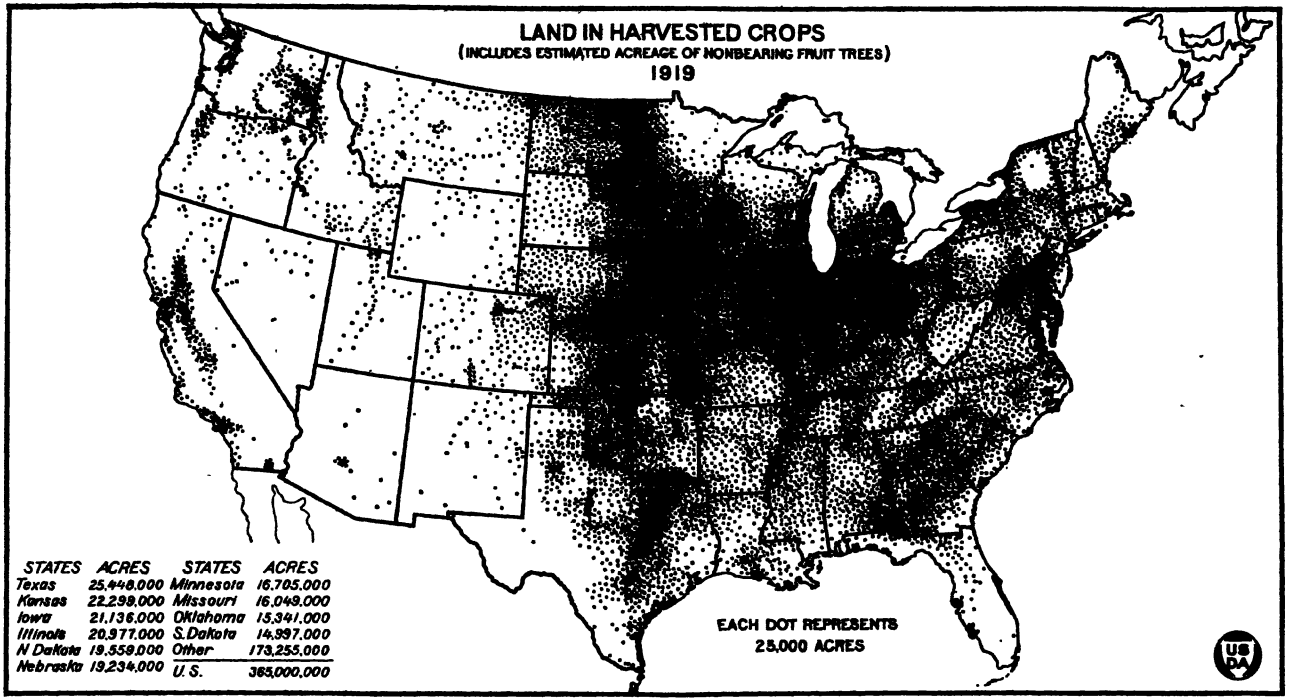


FIG. 5.—This generalized map of forest areas, including cut-over and burned-over lands and arid woodland, was prepared in cooperation with the Forest Service. The figures given in the table are merely tentative. As a result of more recent estimates the statistics for individual States are somewhat different from estimates previously published. The estimates for the originally forested eastern portion of the United States, except for several States in which forest surveys have been made, are based largely on deductions from the statistics of the 1920 census. These compilations were made by counties. Of the 483,000,000 acres of forest and cut-over land in the United States, about one-half is in the South, one-eighth in the Northeastern States, one-eighth in the Lakes States, and nearly one-quarter in the West, mostly in the Rocky Mountain and north Pacific regions. However, over half of the 138,000,000 acres of virgin saw timber is in the West.



STATES	ACRES	STATES	ACRES
Texas	25,448,000	Minnesota	16,705,000
Kansas	22,299,000	Missouri	16,049,000
Iowa	21,136,000	Oklahoma	15,341,000
Illinois	20,977,000	S. Dakota	14,997,000
N. Dakota	19,559,000	Other	173,255,000
Nebraska	19,234,000	U. S.	365,000,000

FIG. 6.—Over five-sixths of the crop land is in the humid eastern half of the United States, and nearly two-thirds is concentrated in a triangular-shaped area, the points of which are located in western Pennsylvania, central Texas, and north central North Dakota. In this area, which includes only about one-fourth of the land of the United States, are produced four-fifths of the corn, three-fourths of the wheat and oats, and three-fifths of the hay crops of the Nation. No region in the world of equal size affords so favorable natural conditions for the growth of corn, and few regions possess so favorable conditions for the culture of the small grain and hay crops.

remaining area is publicly owned land or privately owned land not in farms. (See bottom bar of figure 1.)

Another large area is classed as forest (including cut-over and burned-over land), estimated at 483,000,000 acres, or 27 per cent of the total area available for the three uses (fig. 5). However, of this amount 81,000,000 acres are cut-over land not restocking, that is, not becoming reforested, and 142,000,000 acres are timber of cordwood size. About 260,000,000 acres are saw timber, of which only 138,000,000 are virgin forest.[12] Of the total forest, cut-over and burned-over area, it is estimated that about 237,000,000 acres are employed for grazing. Almost one-third of this is in the national forests and Indian reservations, about one-third is wood lots in farms used for grazing, and the remainder is privately owned land not in farms. The carrying capacity of this forest and cut-over pasture is very low, estimated at an average of about 23 acres per animal unit for a 6-month season.

In addition to the 483,000,000 acres classed as forest, there is an area of about 80,000,000 acres of mesquite, piñon-juniper, live oak, and chaparral, nearly all of which is included in the area of semi-arid grazing land. The wood on this land is useful for fuel and fence posts, and will undoubtedly be more widely used when the price offered justifies transportation to centers of consumption. (See fig. 5.)

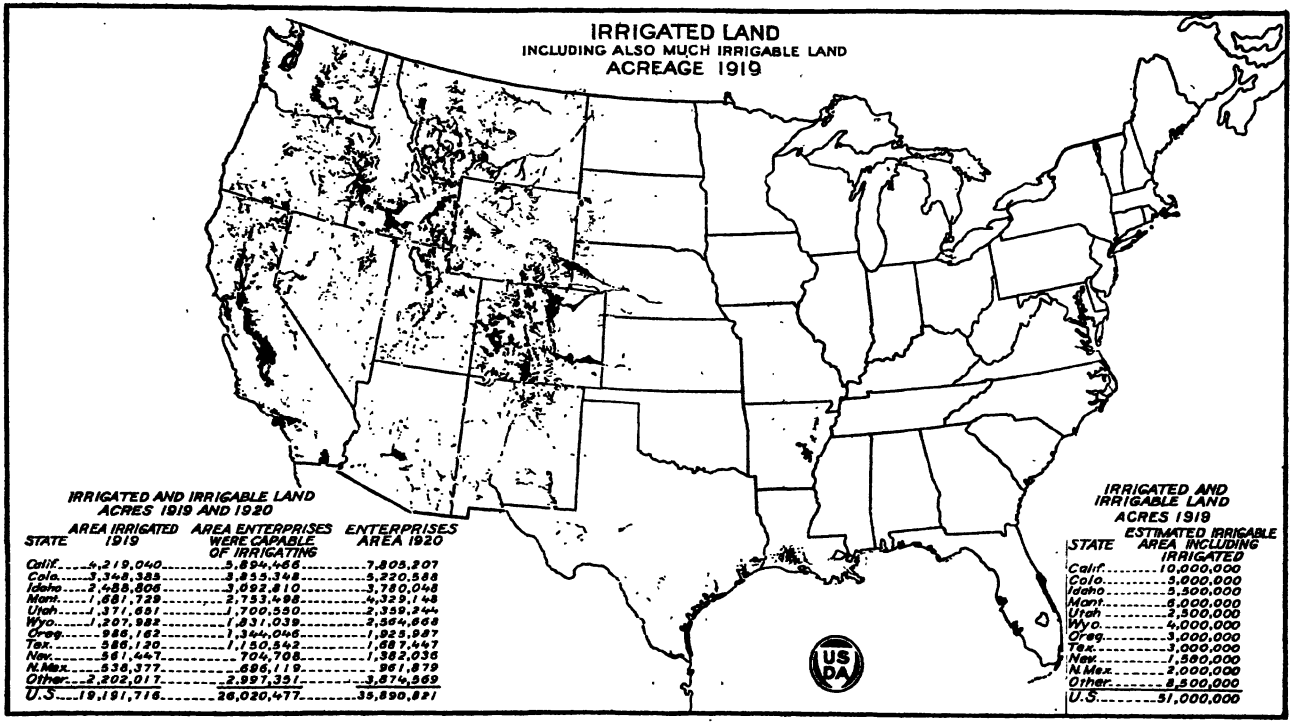
Land in crops harvested in 1919 is estimated at 365,000,000 acres (fig. 6), or only a little over one-fifth of the total area available for the three uses. However, there is always a considerable area of land planted to crops not harvested, mainly on account of crop failure. This is estimated roughly at 15,000,000 acres for 1919. There was also an area of crop land lying idle or fallow estimated at 25,000,000 acres. Some of this probably consists of old fields recently abandoned.[13]

Land Potentially Available for Crops, Pasture, or Forest.

With the agricultural development of the United States, the acreage of crops has been more or less constantly expanding, in earlier periods largely at the expense of forest, and more recently mostly at the expense of pasture (see fig. 20). This process will probably continue with the increase of population, and although it is unlikely that the limits set by physical conditions to the expansion of crop land will ever be reached, it is helpful in studying the problems of crop-land utilization to determine what these extreme physical limits are. From this point of view, the estimated potential areas of land capable of being used for crops are shown in Figure 10.

[12] These estimates are somewhat larger than those given in the so-called Capper Report ("Timber Depletion, Lumber Prices, Lumber Exports and Concentration of Timber Ownership," Report on Senate Resolution No. 311, United States Forest Service, 1920), or the article "Timber: Mine or Crop?" in the 1921 Yearbook. In the eastern originally forested region the figures are based on tabulations, by counties, of census statistics with due allowance for roads, railroads, cities, etc., except that where forest surveys have been made these figures were used instead. In the West the figures are based on estimates by the Forest Service of timberland in the national forests and privately owned. These estimates have been increased to allow for forest land in Indian reservations and in the public domain. Further study is being given the matter, and the figures will doubtless be modified as a consequence.

[13] The area for the various harvested crops whose acreage was reported in the census totaled only 348,000,000 acres, but estimated additions for corn fodder, fruits, and other items bring the total up to 365,000,000.



IRRIGATED AND IRRIGABLE LAND
ACRES 1919 AND 1920

STATE	AREA IRRIGATED 1919	AREA ENTERPRISES WERE CAPABLE OF IRRIGATING	ENTERPRISES AREA 1920
Calif.	4,219,040	5,894,466	7,805,207
Colo.	3,348,383	3,855,348	5,220,588
Idaho	2,488,806	3,092,810	3,720,048
Mont.	1,681,729	2,753,498	4,329,148
Utah	1,371,681	1,700,550	2,359,244
Wyo.	1,207,982	1,831,039	2,564,668
Oreg.	988,162	1,344,046	1,925,887
Tex.	586,139	1,130,542	1,687,467
Nev.	561,447	704,708	1,382,035
N.Mex.	536,377	686,119	961,879
Other	2,202,017	2,997,351	3,874,569
U.S.	19,191,716	26,020,477	35,890,821

IRRIGATED AND IRRIGABLE LAND
ACRES 1919

STATE	ESTIMATED IRRIGABLE AREA INCLUDING IRRIGATED
Calif.	10,000,000
Colo.	5,000,000
Idaho	5,500,000
Mont.	6,000,000
Utah	2,500,000
Wyo.	4,000,000
Oreg.	3,000,000
Tex.	3,000,000
Nev.	1,500,000
N.Mex.	2,000,000
Other	8,500,000
U.S.	51,000,000

FIG. 7.—The area of irrigated land increased 5,000,000 acres, or one-third, between 1909 and 1919; and the irrigation enterprises were capable of irrigating 7,000,000 acres more than were actually irrigated in 1919. There is sufficient water in the West to irrigate double the area that existing enterprises were capable of irrigating in 1920, or about 50,000,000 acres, when higher prices of farm products justify the constantly increasing cost per acre of construction of irrigation works. California, Colorado, and Idaho lead in irrigated acreage at present; but Montana rises into second place in the estimate of total irrigable area. Estimates of irrigable area were supplied by R. P. Teele.

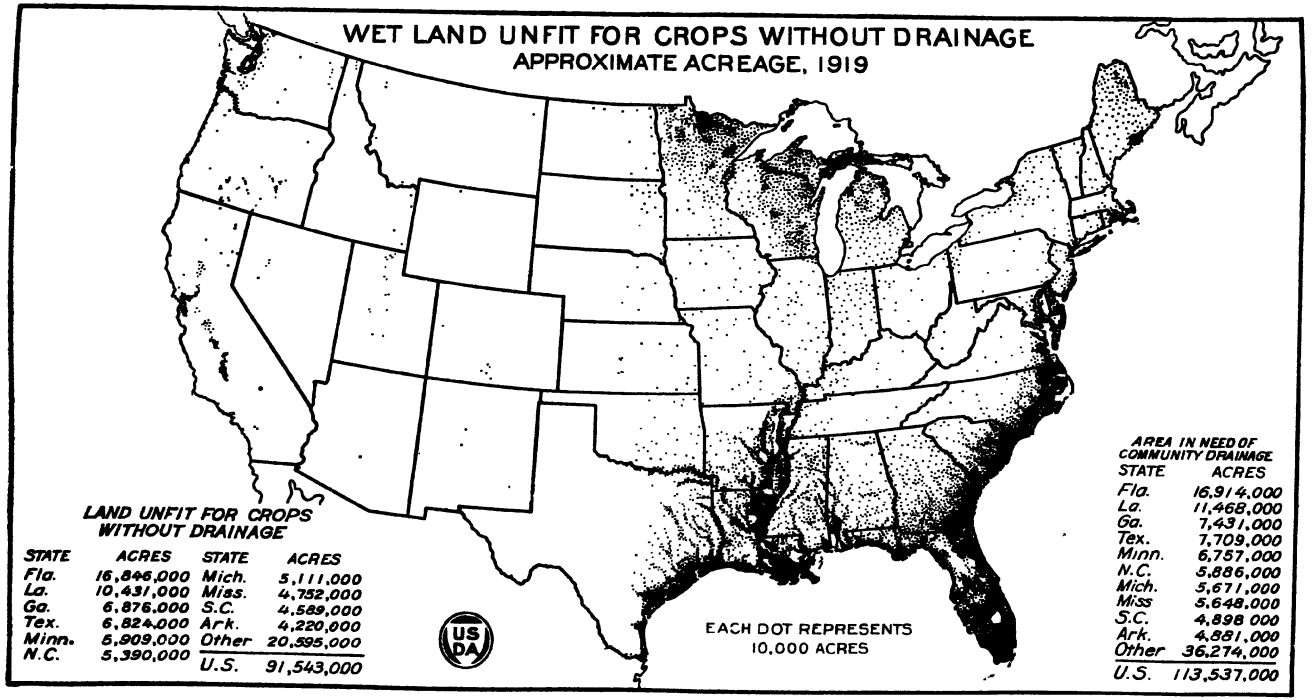
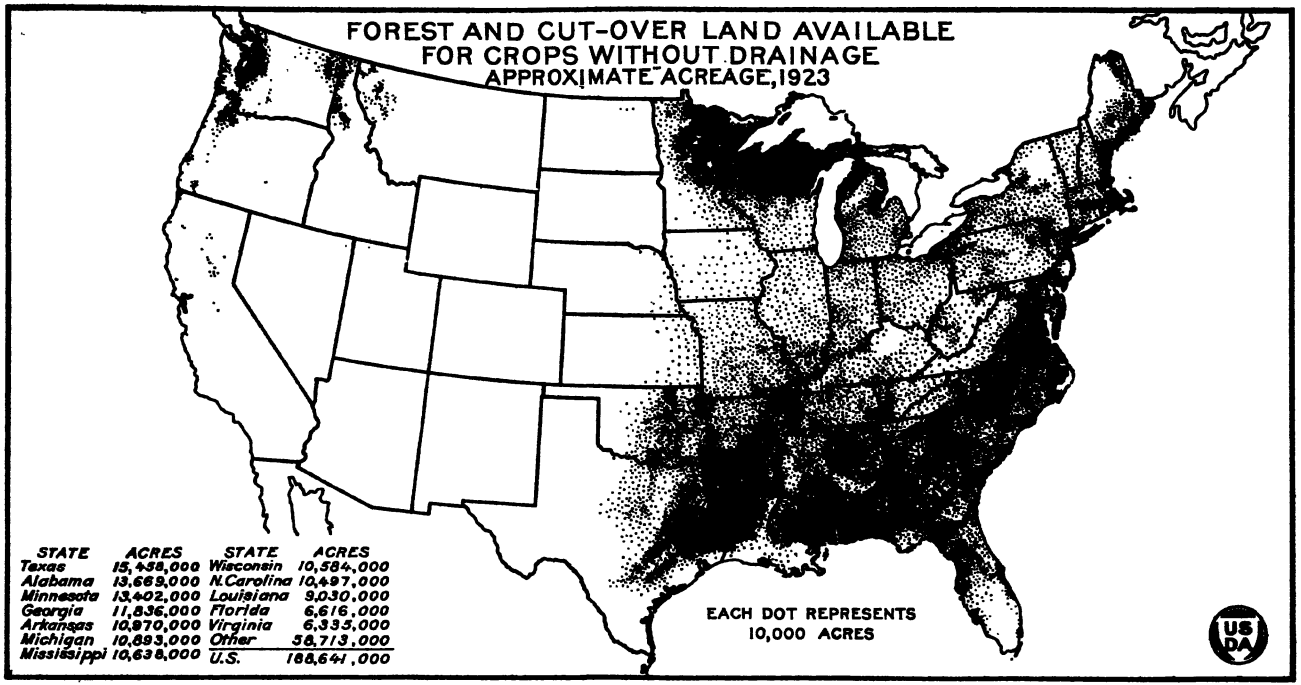


FIG. 8.—This map is based largely upon drainage reports available in the Division of Agricultural Engineering (Drainage Investigations), and upon maps of the United States Soil Survey, United States Geological Survey, and the General Land Office. These reports and maps were compared with statistics of drainage enterprises and of land in farms needing drainage, available for the first time in the 1920 census, by L. A. Jones, of the Bureau of Public Roads, and F. J. Marschner, of the Bureau of Agricultural Economics. Two-thirds of the land unfit for cultivation without drainage is in the Southern States and one-half of the remainder is in the three Lakes States. Nearly all of the wet land in the South, except the Florida Everglades and prairies, tidal marshes, and Gulf coastal prairies, is forested, and requires both drainage and clearing; but much of the wet land in the Lakes States consists of unforested peat bogs. Of the 91,000,000 acres or more of wet land it is estimated that only 75,000,000 acres can be drained at a cost that will ever prove feasible.



STATE	ACRES	STATE	ACRES
Texas	15,458,000	Wisconsin	10,584,000
Alabama	13,669,000	N.Carolina	10,497,000
Minnesota	13,402,000	Louisiana	9,030,000
Georgia	11,836,000	Florida	6,616,000
Arkansas	10,970,000	Virginia	6,335,000
Michigan	10,893,000	Other	58,713,000
Mississippi	10,638,000	U.S.	188,641,000

FIG. 9.—This map is based on compilations by counties for the eastern forest region, including a marginal woodland belt containing about 19,000,000 acres, along the western edge of the forest region in Texas and Oklahoma. The study also included the Pacific Coast States, the Idaho Panhandle, and northwestern Montana. Most of the region in between is either arid or so mountainous that forest land suitable for crops is available only in small areas characterized for the most part by a very short growing season, and is insignificant in amount. Only a small proportion of the available forest and cut-over land in the eastern half of the United States comprises land even of fair quality. Much of this land would require heavy expenditure for fertilization in addition to the expense for clearing. By far the greater part consists either of sands or light sandy loams. The map is based on information gathered by the Soil Survey and descriptive data in the General Land Office survey records, and was prepared by F. J. Marschner, Bureau of Agricultural Economics (Division of Land Economics).

It appears that about 100,000,000 acres more of improved land, mostly improved pasture, are potentially available for crop production. The rapid increase in crop acreage during the World War came largely from this improved pasture land. There are also about 30,000,000 acres more of land in the West which it is possible to irrigate (fig. 7) and about 75,000,000 acres more of potential crop land unfit for crops without drainage, though the greater part of it must also be cleared of timber or stumps (fig. 8). A large area of humid unimproved land, estimated at 235,000,000 acres, is physically capable of crop production without drainage. About 170,000,000 acres of this are forest and cut-over land, located mostly in the South and in the Lake States (fig. 9). Finally, there are about 52,000,000 acres of subhumid lands, mostly in the Great Plains region,

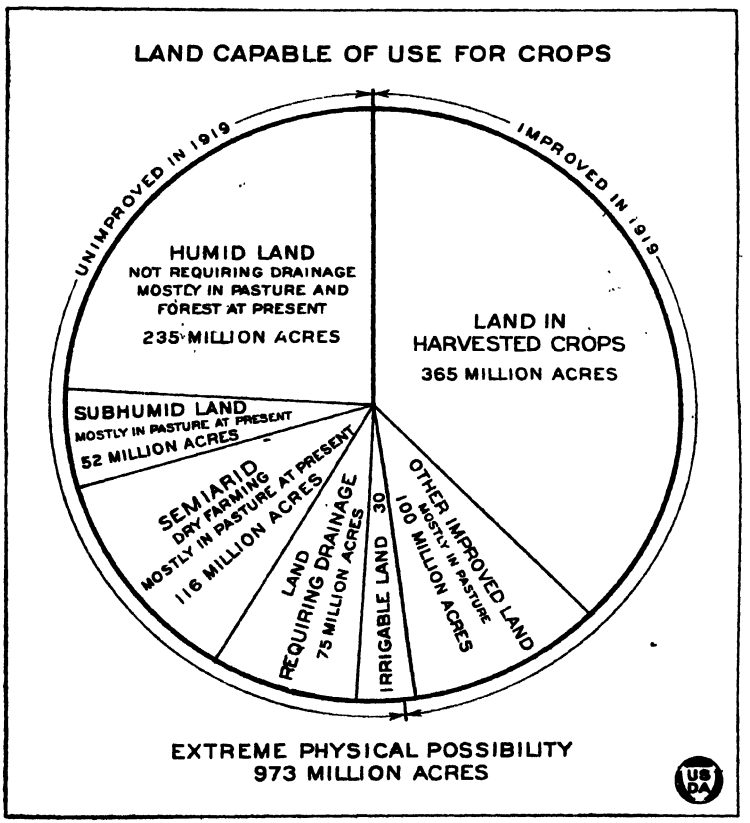


FIG. 10.—In addition to the 365,000,000 acres of land in harvested crops in 1919, it is estimated that there are also about 600,000,000 acres physically capable of being utilized for crops some time in the future. This includes practically all the land that is not too rough, rocky, sandy, cold, or dry, or that is not now employed for uses other than agriculture and forests. Consequently it includes some land that it will not be economical to reclaim for crops even when we reach our maximum population. It also makes no allowance for pasture, except semiarid pasture too dry for crops and a small amount of humid pasture too rough for cultivation, nor for land needed for the expansion of urban areas, roads, railroads, etc. Undoubtedly, a part of this potential crop area will always be employed for pasture. Most of the figures are based on estimates.

and possibly 116,000,000 acres of semiarid land, mostly east of the Rocky Mountains, which could, if necessary, be utilized for dry-land crops.[14]

There are in all, therefore, about 608,000,000 acres of potential crop land, which, added to the 365,000,000 acres in harvested crops, orchards, vineyards, etc., make a total of 973,000,000 acres (fig. 10). When one recalls the fact that the crop area of the German Empire before the World War was only about 70,000,000 acres,[15] the above area appears enormous. However, for a number of reasons the estimate of potential crop area gives an entirely unreal and illusory conception of our available resources.

In the first place, as noted above, this is the area of land that is physically capable of being employed for crops when our need shall become so extreme that considerations of cost of utilization are relatively secondary. Thus, of the land capable of being employed for crops, pasture, and forest in the originally forested region of the eastern half of the United States, there is excluded only the land too rough for crops and about 16,000,000 acres of loose sands which it was considered proper to regard as suitable only for forest (fig. 11). The area indicated as capable of being employed for crops is mostly land that would have to be cleared of timber or of brush and stumps, much of it at heavy cost. Only about 32,000,000 acres are classed as heavy soils. The remainder consists of 162,000,000 acres of soils of medium texture and 26,000,000 acres of fine sands. Most of the former area is light sandy loam. Without doubt practically all of the area of fine sands and a large proportion of the medium-textured soils are of low productivity: but they constitute a reserve area of considerable importance for vegetables, fruits, and other intensively cultivated crops, notably cotton and tobacco. Probably heavy annual fertilization will be required for most of this land. Moreover, a considerable part of the area, though not absolutely too rough to be used for crops, is so

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[14] These various items were estimated as follows: Improved land potentially capable of being added to crop area: From the total area of improved land reported in the census of 1920 (503,000,000 acres) was subtracted the estimated areas in harvested crops (365,000,000), farmsteads (24,000,000), all of which was considered improved land, and a small allowance for roads and lanes and other minor items. There was included an area of 60,000,000 acres of improved pasture, estimated on the basis of 1909 statistics which were tabulated by the Department of Agriculture from the census schedules and published in Department Bulletin 626, and similar statistics for 1919, now available for certain States.

Land capable of irrigation: Estimated by R. P. Teele, Bureau of Agricultural Economics (Division of Land Economics), on the basis of various surveys made by the Reclamation Service, Bureau of Public Roads (Irrigation Investigations), and the United States Geological Survey.

Estimates of drainable land were compiled by L. A. Jones and F. J. Marschner from data in the Bureau of Public Roads (Drainage Investigations), reports and maps of the Soil Survey, topographical maps of the Geological Survey, and various State reports, supplemented by the results of the 1920 census. The total drainable area of 91,000,000 acres has been reduced to 75,000,000 acres to allow for certain areas of very deep peat and some of the coastal marsh which would not be suitable for crops.

Humid unimproved land: This estimate is based on a classification of the land by counties, made by F. J. Marschner, Bureau of Agricultural Economics (Division of Land Economics), with the cooperation of Dr. C. F. Marbut, Bureau of Soils. This classification was made largely on the basis of available data in the United States Soil Survey, United States Geological Survey, United States Land Office, and various State surveys and other State sources of information.

The subhumid prairie region and the semiarid and arid portions of the Great Plains and of the Rocky Mountains interior plateaus, and Pacific coast regions: The estimates were made by O. E. Baker, Bureau of Agricultural Economics (Division of Land Economics), on the basis of the census statistics on the use of land in farms, in process of tabulation, and for land outside of farms, on the basis of data assembled by the Land Classification Board of the United States Geological Survey, supplemented by climatic records and data from the Soil Survey and the Forest Service.

[15] Including areas classified as bare fallow; green manure crops and fields under natural grass; "trees, shrubs, and bushes" (i. e., orchards and small fruits). For a given year, of course, fields under natural grass are more properly considered pasture, but they comprise land that comes into crops during the course of the rotation.

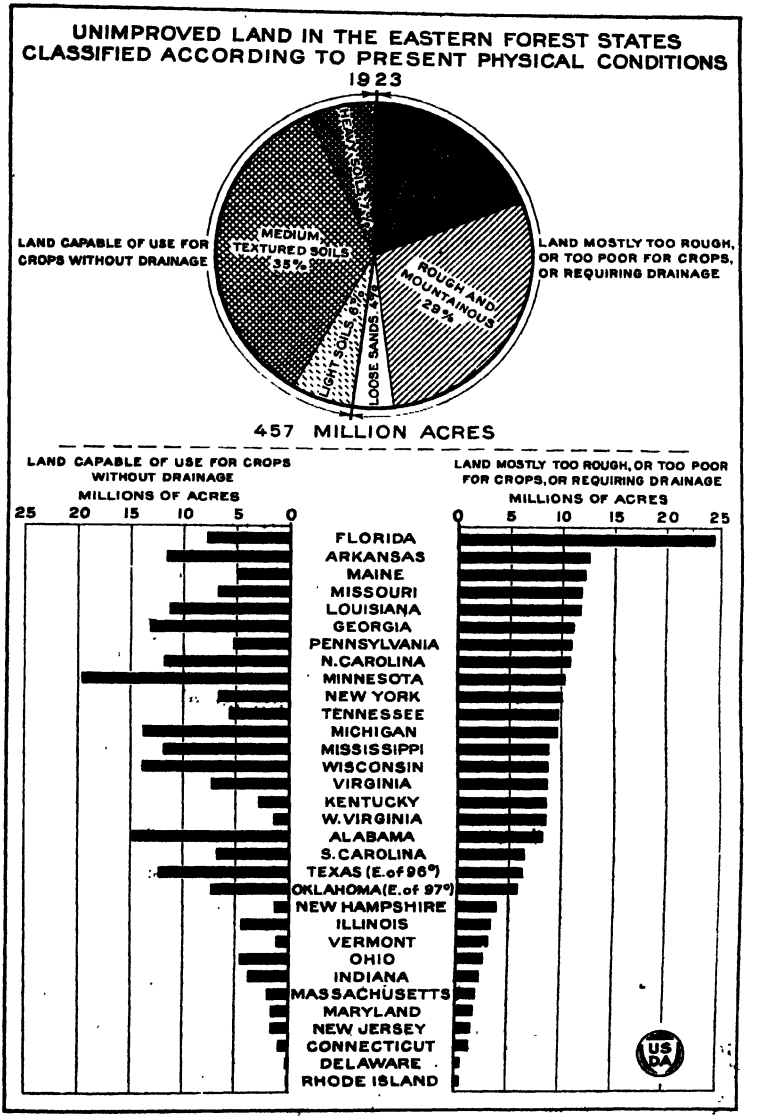


FIG. 11.—Most of the 220,000,000 acres in the region capable of use for crops without drainage is now forest or cut-over eastern originally forested land. There are about 9,000,000 acres more of such land in the Prairie States. The light soils will, in general, need more fertilizer than the heavy soils. The soils of medium texture are mostly sandy loam. The swamps and other wet lands are also forested for the most part, and will, therefore, require clearing in addition to drainage. At least 15 per cent of these swamp lands, owing to adverse conditions, is unlikely ever to be drained. Some of the rough, mountain land can be used for orchards, provided the slopes are kept in sod; but the amount of land likely to be so used is very small. Similarly some of the loose sands can be used for crops provided fertilizer is liberally applied, but the extent of such land will remain very small so long as better lands are available. Undoubtedly most of these 457,000,000 acres of land will not be needed for crops until at least another crop of timber can be cut (see p. 495).

rolling that erosion would probably result in serious soil depletion. Some of this land in the northern portion of the Lake States is also subject to summer frosts. Most of the potential crop land in the eastern forest region is either in the Southern States or in the northern parts of Minnesota, Wisconsin, and Michigan (fig. 9).

Of the estimated 75,000,000 acres capable of being employed for crops after drainage (fig. 8), probably about 68 per cent would also have to be cleared of trees or stumps and brush. Much of the drainable land is fertile, but considerable areas are either deficient in fertility or the soils are of undesirable texture.

The reclamation of arid land by irrigation (fig. 7) also involves heavy costs. The steady increase in average cost per acre for irrigation, which was about eight times as high for projects begun in the decade 1910–19 as for projects begun prior to 1890, suggests that the easier projects were first undertaken and that much of the remaining area classed as irrigable will require extremely heavy costs for construction of dams and ditches.

Of the 100,000,000 acres of so-called improved land not used for crops, a considerable part is probably potential crop land of fair quality. In fact, an estimated 15,000,000 acres is land actually employed for crops but not harvested in 1919. Much of this is land in the semiarid crop regions of the West, however, where crop failure because of inadequate rainfall is frequent. About 25,000,000 acres is crop land which is idle or fallow. This is found mostly in the semiarid wheat areas of the West, where bare fallowing to conserve moisture is practiced, and in the South and East, where many unprofitable fields have been allowed to grow up to broom sedge and weeds. Much of the 60,000,000 acres of improved land in pasture is pasture in rotation with crops, probably the equal of the crop land in fertility; and most of the remainder is fertile permanent pasture. However, to devote any large part of this area to crops without providing a substitute by the improvement of pasture now classed as unimproved would result in the serious disturbance of the necessary relationship of pasture to crops in the systems of farming.

The potential crop land in the subhumid prairies comprises land which hitherto has not been employed for crops or for improved pastures, either because of rough topography or the presence of stone or because the soil is shallow or infertile. Most of this area is in central Texas and Oklahoma.

The potential crop land in the semiarid portion of the Great Plains region has mostly so low a rainfall that an average yield of wheat year in and year out would probably be not more than 7 bushels to the acre. The price of wheat would need to be much higher than at present to make its production profitable under these circumstances In fact, much of the land in this region which has been planted to wheat has proved to be unprofitable at the present level of prices. However, when the population of the nation becomes much greater than at present, considerable portions of this area may be used for grain production, supplemented by the raising of livestock on forage crops, range pasture, and the straw and stubble.

Of the estimated area of 18,000,000 acres of potential crop land west of the Great Plains not irrigable or drainable, about one-third is humid or subhumid land in the Pacific Coast States or in mountain parks. Most of this humid land is covered with heavy forests or

with the large stumps left after lumbering. The cost of clearing is very heavy. The remaining two-thirds is largely semiarid land.

It is also important to keep in mind the fact that most of the potential crop area shown in Figure 10 is now used either for forest or for grazing, and if used for crops would not be available for these other uses. As previously noted, about 1,769,000,000 acres are available for all three uses. Of this amount, 468,000,000 acres are land so

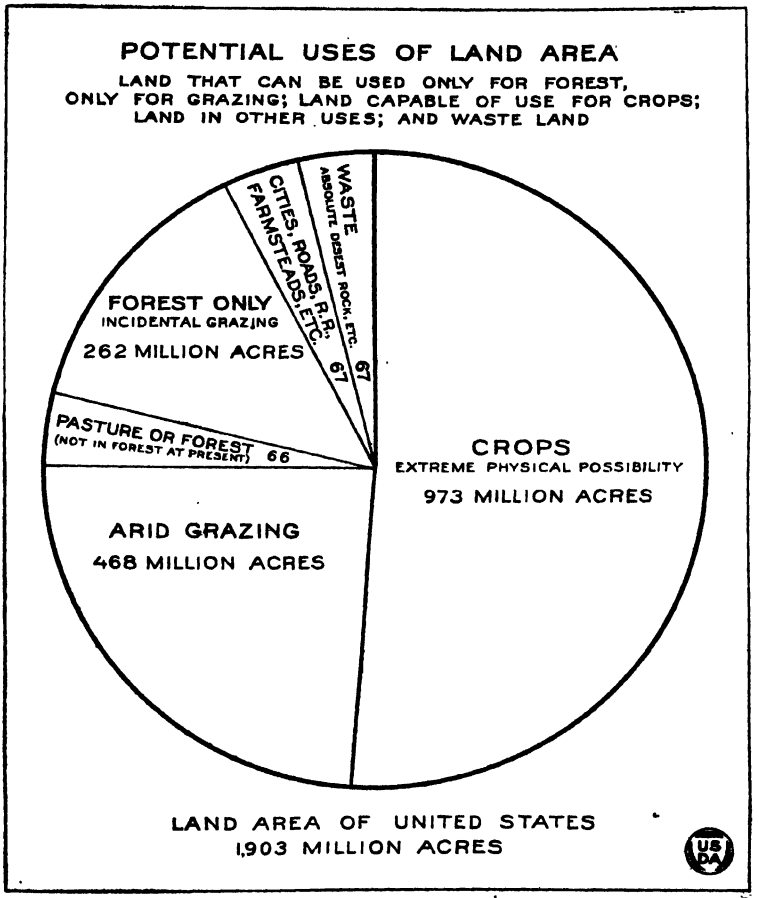
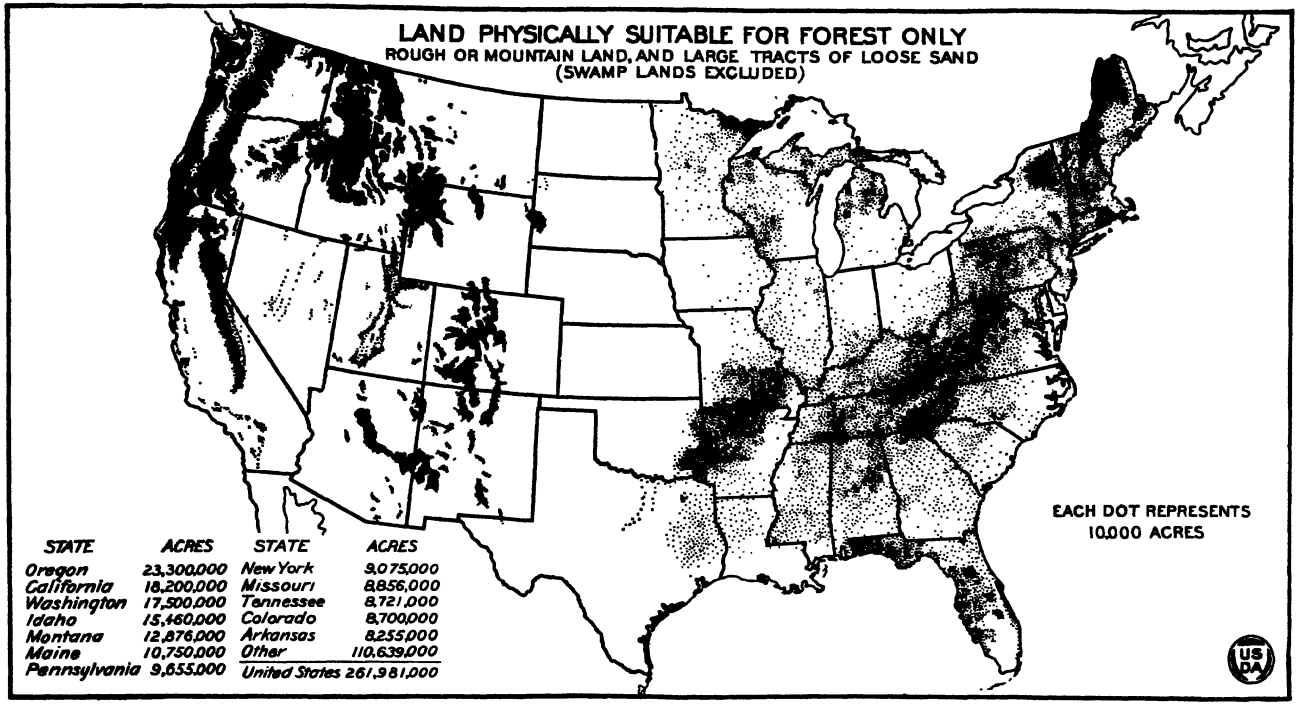


FIG. 12.—Of the 1,903,000,000 acres in the United States, about 468,000,000 acres are arid range suitable only for grazing, with very low-carrying capacity. About 328,000,000 acres are humid land, of which 262,000,000 acres are so rough or sandy that the land is primarily valuable only for forests, and 66,000,000 acres are too rough for cultivation, but used for pasture and not forested at present. About 973,000,000 acres are physically capable of use for either crops or pasture, but probably a considerable portion will remain in forest. (See fig. 10.) With the increase of population the area devoted to cities, roads, farmsteads, etc., will need to be increased somewhat. The figures are based largely on estimates.

arid that it is capable of being used only for grazing (fig. 12). Another area of 262,000,000 acres is capable of being used only for forest. Most of this is mountainous or other land of rough topography (fig. 13). Thus, if all of the 973,000,000 acres of potential crop land were employed for crops, there would remain 66,000,000



STATE	ACRES	STATE	ACRES
Oregon	23,300,000	New York	9,075,000
California	18,200,000	Missouri	8,856,000
Washington	17,500,000	Tennessee	8,721,000
Idaho	15,460,000	Colorado	8,700,000
Montana	12,876,000	Arkansas	8,255,000
Maine	10,750,000	Other	110,639,000
Pennsylvania	9,655,000	United States	261,981,000

FIG. 13.—The study on which this map is based, as in the case of Figures 9 and 11, included county compilations only for the eastern half of the United States and the Pacific Coast States. Within these regions the land classed as suitable only for forests consists of the areas too rough for crops and the areas of coarse sand. The total is about 152,000,000 acres in the East and 67,000,000 acres in the Pacific Coast States, to which have been added 53,000,000 acres in the Rocky Mountain region suitable only for forests. There are, in addition, probably 200,000,000 acres of land that can be more economically used for forests than for other purposes during the next few decades. The increase of "improved" and cleared "unimproved" farm land in the forested portions of the United States was only 5,000,000 acres between 1910 and 1920, and there seems little likelihood that there will be any great increase in the rate of clearing during the next few decades.

acres of humid pasture land other than forest or cut-over pasture. It is obvious that even a nation of very dense population would not maintain so small a proportion of pasture to crop land. In Germany, where the density of population is many times as great as it is in the humid portion of the United States, pasture, other than woodland pasture, comprises an area about two-thirds as large as the area of land in crops.

As will be shown later, the 262,000,000 acres of forest would provide, even under the best of conditions, for growing a supply of timber, for only a small part of our present per capita consumption of timber and timber products. Furthermore, in the next few decades we shall by no means need for crops all of this area of potential crop land. Consequently, the problem of future land utilization becomes one of relative requirements for the several uses. A primary object of the present study is to determine these requirements for the next few decades as a basis for indicating the nature of the land policy required.

Increasing Scarcity of Land Resources and Nature of This Scarcity.

As long as a large portion of our national domain remained unused for crops, pasture, or forest, the potential competition of these uses for our national area was not apparent. For some decades, however, we have been using for crops or for grazing the greater part of the land not occupied by forests, and during this period there has been practically no important reserve area for the expansion of any one of the three uses except at the expense of the others. Consequently, the growth of our population has resulted in an ever-increasing scarcity of our available land area, and it is important to consider some of the evidences of this scarcity.

Decrease in Per Capita Acreage of Land in Farms, of Improved Land, and of Land in Crops.

According to the census of 1920, the area of land in farms had increased more than threefold since 1850, while the area of improved land had increased nearly fivefold (fig. 14). However, the per capita acreage of farm land reached a maximum at the outbreak of the Civil War (fig. 15). The decade in which the Civil War occurred resulted in a notable decline in per capita acreage of farm land. In 1900 the per capita acreage of farm land was larger than in 1870, mainly as a result of the tremendous expansion of the area of land in farms from 1890 to 1900, but thereafter decreased. The per capita acreage of improved land in farms was at the maximum in 1880 and 1890. The per capita acreage of crop land has declined since 1900.

The decline in the per capita acreage of improved land and of crop land during the last few decades is attributable partly to the limited area of the United States available for crops, pasture, and forest. But it has been due even more to the difficulty of enlarging our crop area by the addition of land of a quality capable of being profitably used for crops.

The decline in the per capita area of farm land, improved land, and land in crops is the result of a number of factors. The cen-

AREA OF LAND IN FARMS AND AREA OF IMPROVED FARM LAND, UNITED STATES, 1850–1920; HARVESTED AREA OF 14 PRINCIPAL CROPS, 1880–1920.

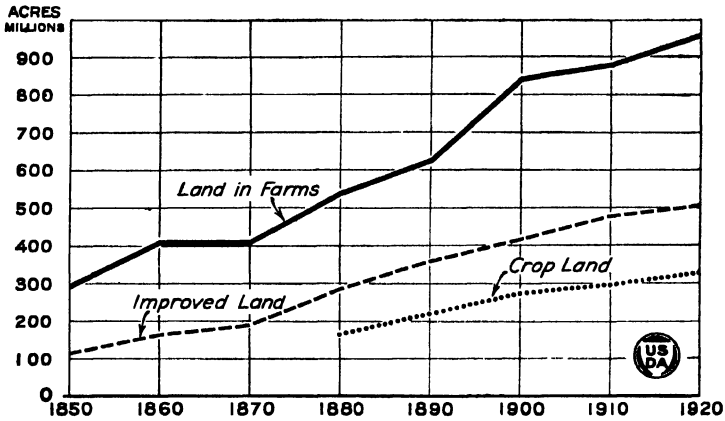


FIG. 14.—While the increase in the area of land in farms from 1850 to 1920 was greater than the increase of improved land, the rate of increase for the former was less than for the latter. However, since 1880 the ratio of improved land to farm land has been more or less constant at about 1 to 2. From 1880 (when census figures of crop acreage became available) to 1920 the harvested area of the principal crops increased at a more rapid rate than the area of all farm land or of improved farm land. In other words, the proportion of the improved land which is in crops was increasing, and the proportion in pasture was decreasing accordingly.

PER CAPITA AREA OF LAND IN FARMS AND OF IMPROVED FARM LAND, THE UNITED STATES, 1850–1920; PER CAPITA HARVESTED AREA OF 14 PRINCIPAL CROPS, 1880–1920; AND INDEX OF PER CAPITA PRODUCTION OF 9 PRINCIPAL CROPS (5-YEAR AVERAGES CENTERED ON CENSUS YEARS), 1870–1920.

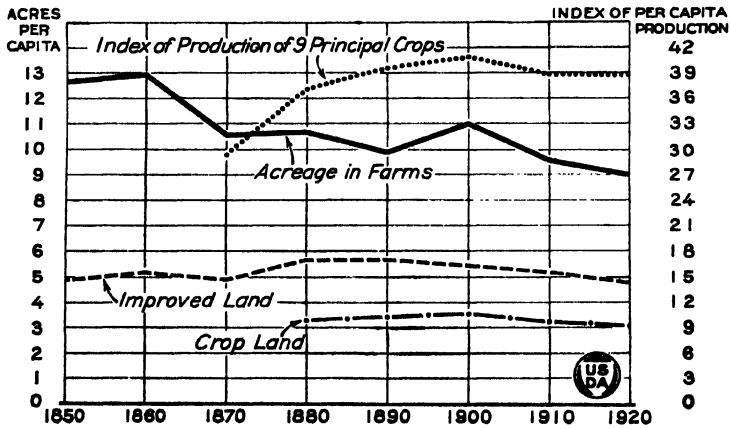
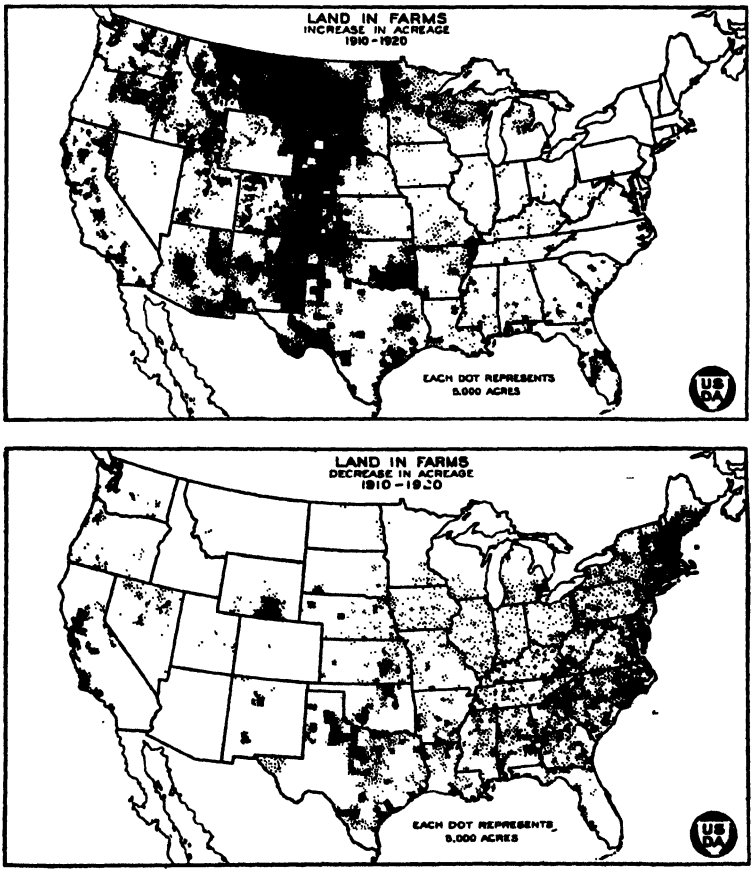


FIG. 15.—The per capita acreage of land in farms has shown a decreasing trend since 1850. The per capita acreage of improved farm land was about the same in 1920 as in 1850, but has decreased in each decade since 1890, when the maximum was attained. The per capita area of land in the 14 principal crops increased slightly from 1880 to 1900, but was less in each succeeding decade. The index of per capita production of 9 principal crops increased from 1870 to 1900, but was less in 1920 than in 1900. The data on acreage of land in farms, improved land, and crop land are from the census. The data on per capita production represent 5-year averages of Department of Agriculture estimates, centered on census years. The crops are combined on the basis of the aggregate value obtained by multiplying the total product of each by the 45-year average price. Comparable data for all decades are available for only nine crops, comprising, however, nearly 90 per cent of the total crop area.

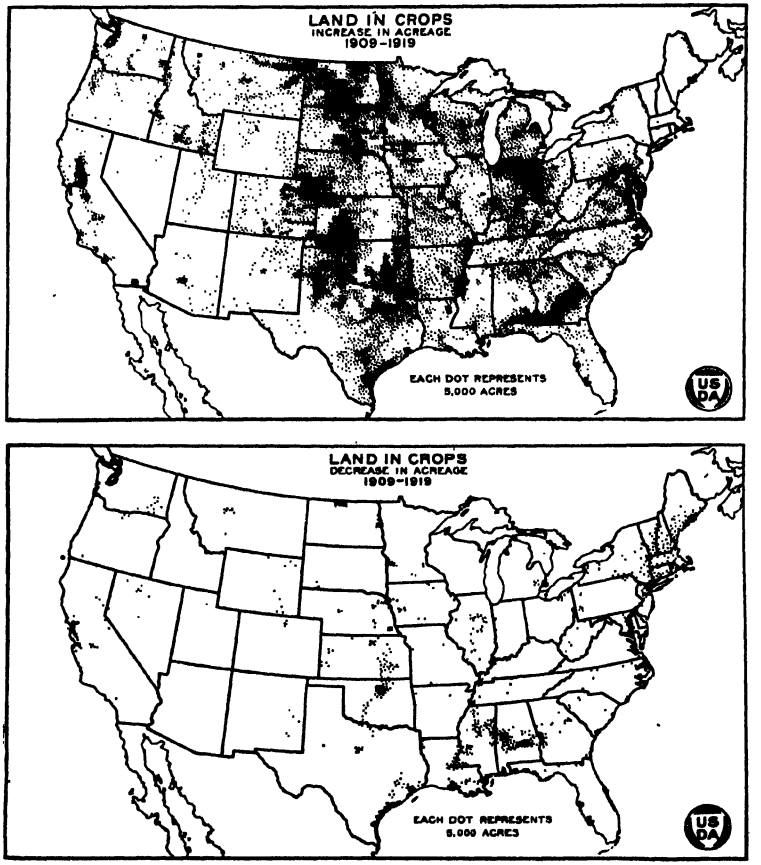
sus of 1920 revealed the fact that, since 1910, in that part of the United States east of the Great Plains, there had occurred a widespread decrease in the acreage of land in farms, amounting to 7,000,000 acres, with an increase only in a few scattered localities, the most important of which were the northern portion of the Great Lakes States, the Mississippi River bottoms, particularly in Missouri and Arkansas, and a few other districts where the reclamation of land by drainage or clearing was taking place (figs. 16 and 17). This decrease was offset by a widespread increase in the area of land in farms in the western half of the United States, amounting



FIGS. 16 and 17.—With the exception of the northern portion of the Great Lakes States, Florida, and southeastern Oklahoma, there was no notable increase in the acreage of land in farms east of the Great Plains. In the latter region and other parts of the West the great expansion of the area of land in farms was owing largely to the enactment of the enlarged homestead act, in 1909, and the grazing homestead act, in 1916, which authorized entry of 320 and 640 acres of land, respectively. With the exception of the areas mentioned, and a few other scattering districts where reclamation of one kind or another occurred, decreasing acreage of land in farms was the general tendency east of the Great Plains. The marked decreases in Texas were probably mostly nominal, being due largely to shifts of the headquarters of large cattle ranches from one county to another.

altogether to 84,000,000 acres. A large proportion of this land has proven suitable for grazing rather than for crops. In fact, the total increase of improved land in the West between 1910 and 1920 was 24,000,000 acres, much of it being the result of the improvement of land already in farms.

In spite of the general decrease of land in farms in the eastern half of the country, there was a net increase in crop land in this section amounting to nearly 25,000,000 acres, while in the western half of the country the increase was about 20,000,000 acres (figs. 18 and 19). Although this increase in crop acreage in the eastern half of



FIGS. 18 and 19.—While the area of land in farms generally decreased throughout the region east of the Great Plains (figs. 16 and 17), there was a widespread increase in the area of harvested crops in this section as well as in the Great Plains and various parts of the West. Patriotic motives, together with the inducements represented by high prices for farm products during the war and for some time thereafter, were mainly responsible for this increase, which consisted largely in the employment for crops of land formerly used for pasture. The large increase in the acreage of crops in the Great Plains corresponds with an increase in land in farms already noted. The principal regions where a decrease in crop acreage occurred were New England, the Black Prairie of Alabama, and northeastern Mississippi, a district along the Mississippi River in the southwestern Mississippi and northeastern Louisiana, and a part of northern Oklahoma. In all of the southern districts mentioned, with the exception of Oklahoma, the ravages of the boll weevil are largely accountable for the reduction in the acreage of harvested crops.

the country may include small additions to both farm area and crop area through drainage or clearing of land, it more largely comprises the using for crops of improved pasture land in farms. The fact that improved land in the United States increased only 25,000,000 acres during the decade, while the area of land in crops increased about 45,000,000 acres, indicates that a large proportion of the increase in crop area came from improved pasture land.

Since 1920 the area of farm land and of improved land has increased very little, possibly not at all, and the acreage in crops has decreased since 1919. Population, on the other hand, has probably increased somewhat more rapidly than during the decade 1910–1919, which included the war years and epidemics of influenza. The rate of decrease of per capita acreage of farm land, improved land, and crop land, therefore, has probably been more rapid since the World War than before.

Has this decrease for more than two decades in the acreage of crops per capita meant also a decline in production per capita, or may not the decrease of per capita acreage have been offset by a larger yield per acre? The answer to both questions probably must be in the negative. The index of average production per acre increased considerably from the 5-year period 1883–87 to that of 1903–07, but from the latter period until 1918–22 there was, if anything, a slight decrease in the index (fig. 45).[17]

Decrease in Area of Pasture.

The significance of the decline in the per capita acreage of crop land during the past two decades is emphasized all the more by the fact that it has been accompanied by an even more marked decrease in the per capita area of grazing land, including that without as well as within the boundaries of farms. For, whereas the area of farm land during the period was increasing, albeit, not with sufficient rapidity to keep up with the increase of population, this very increase involved a decrease in the total area of land not in farms. Nearly all the land not in farms suitable for grazing has been grazed since 1890.[18] Within the area of land in farms, crops have encroached constantly on the pasture land. Crop land increased 11.3 per cent between 1909 and 1919, whereas farm land increased only 8.8 per cent. It appears almost certain that half of the increase in crop land during this decade was at the expense of improved pasture, and much of the remaining half from unimproved pasture within or without farm boundaries. The clearing of forest land in farms and the use of this land for pasture[19] has not been nearly so

[17] Since the various crops involve products of such widely different value in proportion to weight as hay and cotton or tobacco, it was necessary to reduce them to some common denominator which would reflect their relative value over a long period. For this purpose the 43-year average price of each crop (1879 to 1922) was used as a weight in obtaining the index of average yield per acre of the principal crops.

[18] In 1880 a considerable part of the range land in the West, especially in the Dakotas and Montana, was not in use for pasture; but by 1890 nearly all of the land in the West, outside the absolute deserts, was employed for grazing, as is shown by the local distribution of livestock in the census of 1890 (fig. 26). Consequently, since 1890 it is fair to assume that all grassland brought into the classes of improved land or unimproved land other than woodland was still used for pasture, except in so far as it was devoted to increasing the crop area.

[19] Some of this forest land was used for pasture before clearing, but its value for pasture was very low in comparison with its value after clearing.

extensive as the expansion of crop land. In fact, the actual area of land used for pasture has probably decreased since 1880, and almost certainly since 1890 (fig. 20). The estimated amount of decrease per decade in pasture area since 1890 is as follows: [20]

	Acres.
1890–1899	38,000,000
1900–1909	11,000,000
1910–1919	32,000,000
Total	81,000,000

On the basis of these estimates it appears that the per capita acreage of humid pasture (exclusive of woodland) and semiarid pasture was reduced from 14.28 acres to 7.75 acres, or nearly half during the 30 years. Moreover, the carrying capacity of the pasture

TREND IN THE USE OF THE LAND AREA FOR CROPS, PASTURE, AND FOREST, UNITED STATES, 1880–1920.

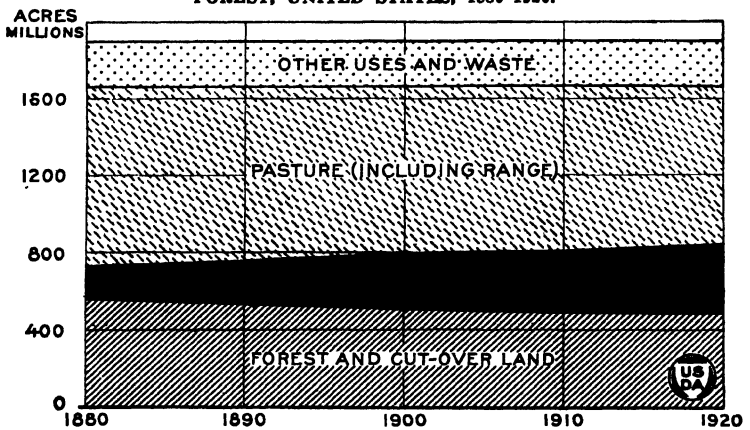


FIG. 20.—The area of land in harvested crops has steadily increased at the expense of forest and cut-over land, on the one hand, and of pasture, on the other hand. During recent years the increase has been mostly at the expense of improved pasture. The area of other uses and waste has been practically constant, while the area for cities, farmsteads, roads, etc., has increased, this increase is probably offset by the decrease in area of waste land.

per acre probably decreased also, since the pasture land put into crops was undoubtedly the best pasture.

The growing scarcity of land available for grazing is reflected in the statistics of livestock. The per capita number of livestock in 1922 was less than two-thirds that in 1894 (fig. 21). This was largely caused by decreases in the per capita numbers of sheep, beef cattle, horses, and mules. The expansion of the livestock industry across

[20] This result was obtained by tabulating the acreage of improved and of unimproved land other than woodland separately for the counties originally forested and for those originally covered mostly with grass or desert vegetation. The increase in crop land harvested in each decade, less the increase in improved and unimproved land in forested counties, is assumed to indicate roughly the net loss in pasture area for the decade. To whatever extent these forest areas were formerly pastured before clearing, to that extent the loss in pasture acreage was greater than the figures indicate. However, the carrying capacity of woodland is so small that to allow for it on an acreage basis would be misleading.

the central and far West between 1850 and 1900, and its stationary condition since, are shown in Figures 22 to 29.

TRENDS OF TOTAL AND PER CAPITA NUMBERS OF LIVESTOCK, UNITED STATES, 1850–1922.

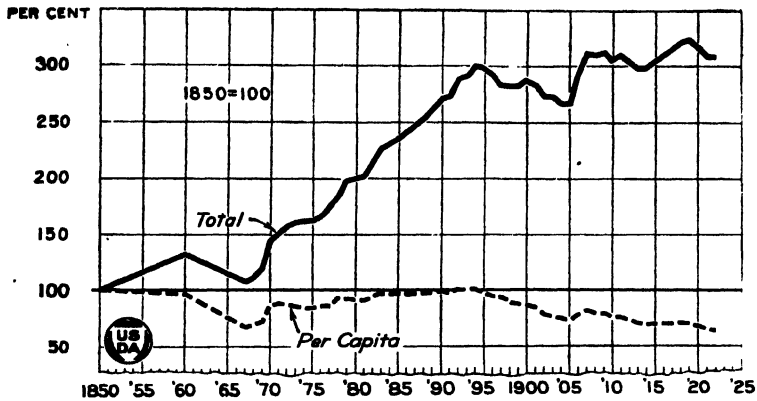


FIG. 21.—Since about 1894 there has been but little increase in the total number of livestock in the United States, and consequently the number per capita in 1922 was only about two-thirds that of 1894. In order to reduce the different classes of livestock for any given year to a single figure, the number of head of each class was given a relative weight equivalent to its 56-year average price. The curve probably contains a certain margin of error due to defects in basic statistics, as revealed by the sudden variations from trend shown at certain periods, as, for instance, between 1906 and 1907.

Increasing Land Values as an Indication of Increasing Scarcity of Farm Land.

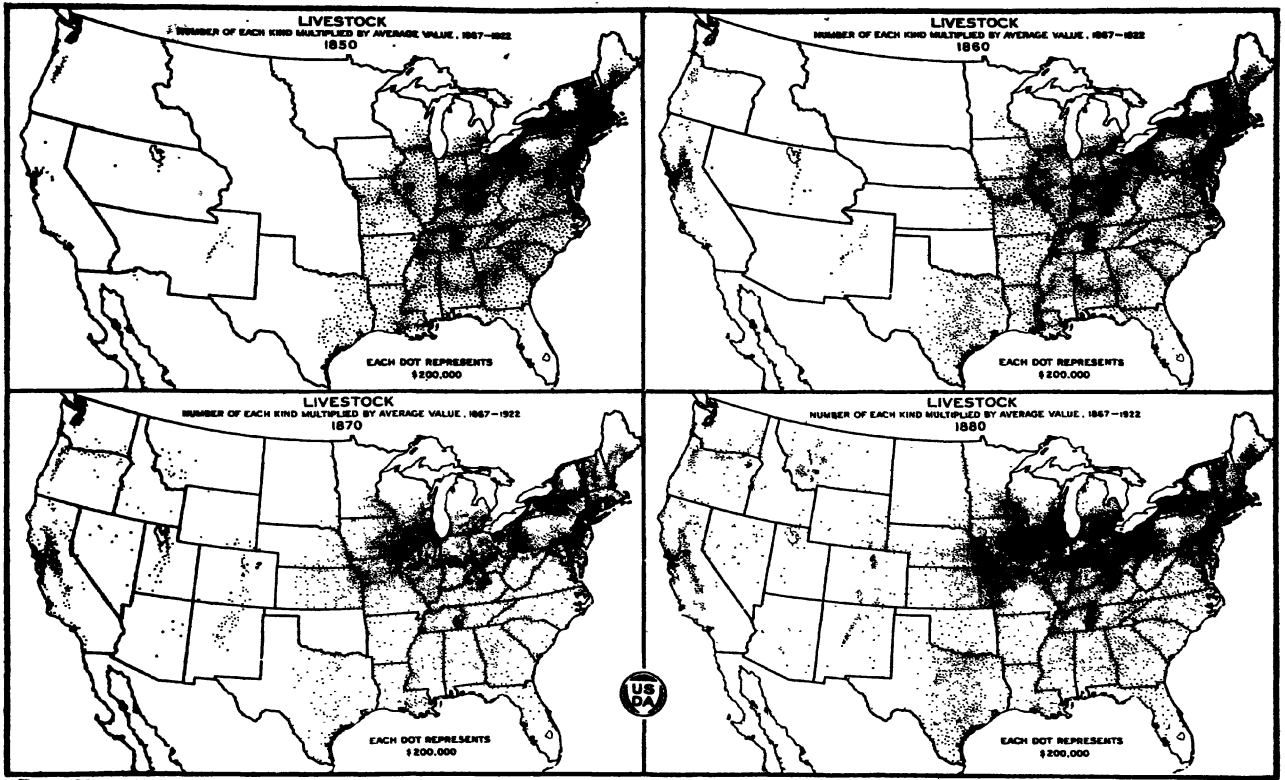
An increase in the average valuation of land per acre is not a conclusive proof of the increasing scarcity of land in a particular country. It may be a result of other influences, such as a decrease in the rate of capitalization or influences outside of the country affecting the world market. Again, an increase in average valuation per acre for the country as a whole may reflect the influences of the addition of new cheap lands in the process of expansion. However, changes in land values may tend to confirm other indications.

The trend in the value of farm real estate per acre from 1850 to 1920, according to the decennial census, is shown in Figure 30.[21]

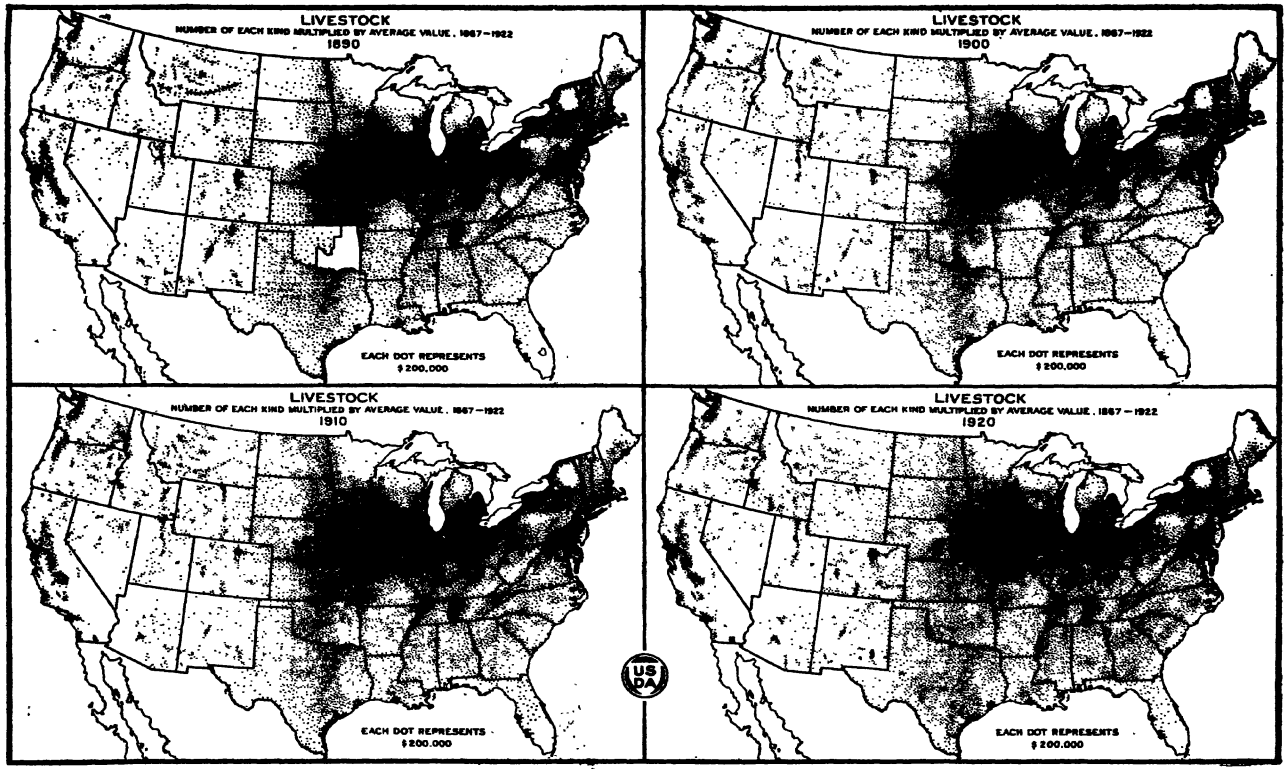
When land valuation is expressed in current dollars without reference to changes in the value of the dollar itself, without regard to the relationship between the valuation of land expressed in dollars and the valuation of other commodities expressed in dollars, it appears that the valuation per acre of farm land has increased during every decade except from 1890 to 1900. This upward trend has occurred in spite of the fact that each decade has seen included in the land area of the nation a large acreage of new and cheap farm land.

However, when the valuation of land per acre is expressed in current dollars, the upward movement may reflect merely inflation

[21] Compare also article "Farm Ownership and Tenancy," p. 541.



FIGS. 22 to 25.—In 1850 only the eastern portion of the Corn Belt was occupied by livestock, and that sparsely, and only a beginning had been made in the extreme southern part of the great dairy States, Wisconsin and Michigan. There were no livestock reported in Iowa, except the extreme eastern part, nor in Minnesota, the Dakotas, Nebraska, and Kansas. A beginning had been made in eastern Texas. Between 1850 and 1880 the Corn Belt, the southern parts of the Great Lakes States, Texas, and the more desirable parts of the Pacific coast and the Rocky Mountains were largely occupied by livestock, but little progress had been made in the Dakotas and Oklahoma, and the vast arid range lands of the western half of the United States were only partly utilized.



FIGS. 26 to 29.—Between 1880 and 1920 the principal extensions in the territory occupied by livestock were the Dakotas and Montana east of the mountains, the western third of Texas, and Oklahoma. Most of this increase was between 1880 and 1890. Between 1890 and 1920 there appears to have been some decrease in the quantity of live stock in much of the Corn Belt. In this series of maps (figs. 22 to 29, inclusive) the various classes of livestock are converted to a single unit of measurement, based on the average values of 56 years, in order to show the expansion of the livestock industry considered as a whole. The statistics were compiled by Dr. Sewell Wright, Bureau of Animal Industry.

of the currency and be a part of a general increase in the prices of all commodities. When we divide the average valuation of farm land per acre by the index number of prices of all commodities (land not being included), we get a rough measure of the changes in the value of land; that is, of the purchasing power of land in terms of other commodities. The figures thus calculated indicate a decrease in the average value of land per acre during three decades since 1850: 1860–69, 1890–99, and 1910–19.[22]

The average figure for the nation as a whole is complicated by the continuous inclusion of new land. A more significant indication of the trend is that available for Ohio by years (fig. 31). This curve

AVERAGE VALUATION PER ACRE OF FARM REAL ESTATE, UNITED STATES, 1850–1919.

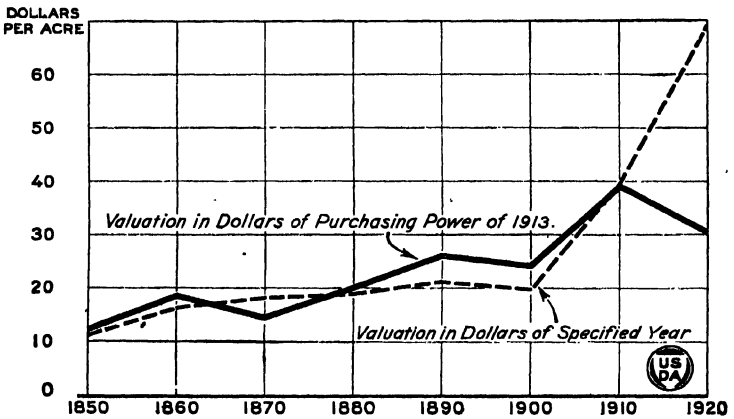


FIG. 30.—The general trend of the valuation of farm real estate has been upward since 1850, so far as it is revealed by decennial census figures. The upward movement was especially rapid from 1900 to 1920, but from 1910 to 1920 the increase in the valuation of land was not as rapid as the upward movement of general commodity prices. Consequently the valuation of farm land expressed in dollars of the purchasing power of 1913 decreased. This decrease was largely due to the tendency for the movement of land values to lag somewhat behind the movement of general commodity prices.

shows the strong upward movement beginning about 1900, but it also shows a slight downward trend preceding 1900.

The trend in the value of farm land up to 1920 appears to confirm the conclusion, supported also by other facts, that the nation reached and passed the apogee of agricultural land supply in proportion to population about three decades ago, and that we have entered a period which will necessarily be marked by a continually increasing scarcity of land. For, although the present area of land in farms is only about one-half the total land area of the United States and the improved farm land is only about one-quarter,

[22] In this last decade the relationship was abnormal, because the prices of commodities had been moving upward with great rapidity while the valuation of land, being apparently slower to respond to the influence of inflation, had tended to lag behind. Consequently the decrease shown from 1910 to 1920 may be only a nominal decrease due to the taking of the statistical picture at a time when the valuation of land had not yet caught up with the upward movement of commodity prices.

nearly all of the area suitable for agricultural purposes is now in use either for crops or for pasture, or is forest and cut-over land, and was probably so employed at least three decades ago. The needs of the increased population, which are two-thirds greater than they were three decades ago, have been met in recent years by a large increase in the total though not in the per-capita area of crop land, mostly at the expense of pasture; and by a decrease in the per-capita area required to maintain livestock, principally due to reductions in the per-capita number of sheep, beef cattle, and horses and mules.

TREND IN AVERAGE VALUATION PER ACRE OF FARM REAL ESTATE IN OHIO COMPARED WITH TREND OF PRICES OF WHOLESALE COMMODITIES IN THE UNITED STATES (DEPARTMENT OF LABOR INDICES), 1877–1921.

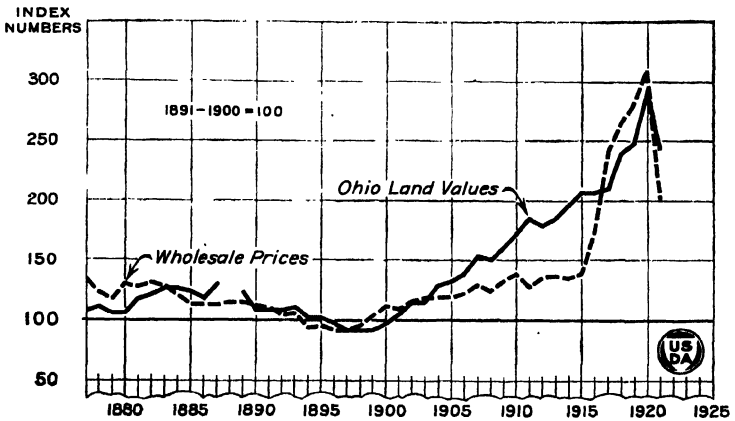


FIG. 31.—Unlike the curve of land valuation shown for the United States as a whole in Figure 30, the curve for Ohio does not reflect the influence of the development of large areas of new farm lands within the State, for Ohio was fully settled before 1877. Instead of an upward movement in the curve of real estate prices throughout the period, as was shown for the United States as a whole, the curve for Ohio follows the downward movement of commodity prices from the eighties to about 1897. From about 1903 to the outbreak of the World War, the curve of real estate prices advanced more rapidly than the curve of commodity prices. This was apparently a period when the value, as distinguished from the price, of land was increasing, probably reflecting the growing scarcity of available farm land of good quality.

Conditions That Tend to Obscure the Increasing Scarcity of Land Resources.

The trend toward increasing scarcity of land resources available for crops, pastures, and forests has been obscured temporarily by the existing agricultural depression and by the fact that we are still cutting our timber largely from a stored crop.

The Overdevelopment of Farm Production for Export Temporarily Disguises the Increasing Scarcity of Farm-Land Resources.

It seems incongruous to talk of the increasing scarcity of land available for crops, pastures, and forest at a time when certain important farm products are almost a drug on the market. Since this

TREND OF NET EXPORTS OF 16 PRINCIPAL CROPS (COMBINED ON BASIS OF 43-YEAR AVERAGE PRICES), UNITED STATES, FISCAL YEARS 1891–1922.

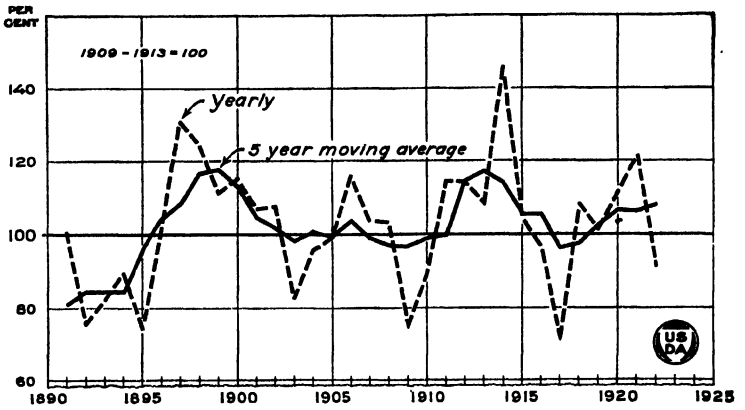


FIG. 32.—The annual variation in the volume of exports is shown by the dashed line, while the solid line is a 5-year moving average centered on the middle year, except for the last two years, which represent 4-year and 3-year averages, respectively. A comparison of the two curves indicates that about 1897 there began a rapid decrease in the volume of exports, which continued until 1908. While the large exports of 1906 were an exception to the downward movement, the general trend appears to have been toward lower averages until 1910. Then began a general upward movement which continued until the outbreak of the World War, followed by a downward movement, which continued until 1917, followed by another increase, which continued until 1921. In general, the level of exports from 1912 to 1922 was higher than in the period from 1902 to 1911.

depression made its appearance, public attention has associated it with the export surplus of farm products. At first the public noticed that the exports of farm products measured in dollars had

TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF WHEAT, TOTAL AND PER CAPITA, UNITED STATES, 1909–1922.

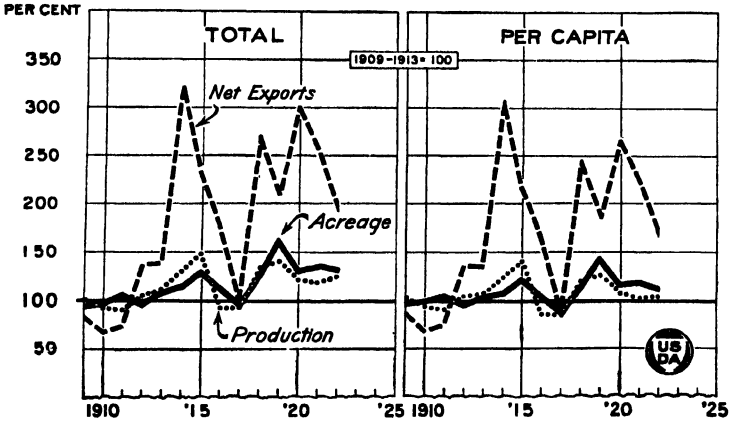


FIG. 33.—Small percentages of change in the production of wheat (whether due to variations in acreage or in yield) result in large percentages of change in exports. The general trend of acreage, production, and exports of wheat was upward from 1910 to 1914. There followed a decline until 1917, and then a marked upward movement culminating in 1919 for acreage and production and in 1920 for exports. From 1920 to 1922 there was but little change in wheat acreage or production, but a large decrease in exports.

decreased. There immediately resulted the impression that our exports were being dammed up in this country because the normal channels of outlet were blocked by the chaotic conditions of credit and international exchange. Subsequently, however, attention was directed to the fact that our physical exports were still much larger than in the pre-war period, and the conviction has developed that the trouble is due to an excessive production of agricultural products.

In order to make clear the fundamental conditions responsible for the development of the present depression and for its continuance, it is necessary to answer certain basic questions: (1) In what degree is the physical export volume of farm products abnormal? (2) What conditions are responsible for the expansion of our exports; is the

TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF CORN, TOTAL AND PER CAPITA, UNITED STATES, 1909–1922.

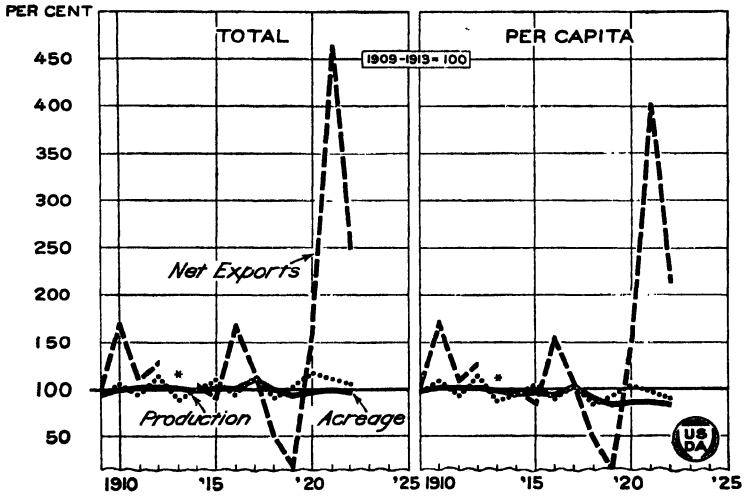


FIG. 34.—The illustration shows the enormous relative expansion in the total and per capita exports of corn in 1921. However, the normal percentage of exports to total product is so small that a slight percentage of increase in the total volume of production, due to increase in acreage or yield, may result in a very large percentage of increase in the surplus available for export. This explains the fact that the large rise in the export curves from 1919–1921 does not coincide with a correspondingly large increase in the curves for acreage and production. For 1913 there were no net exports of corn; hence the break shown in the export curve.

expansion due to increased acreage per capita, to increased production per acre, or to decreased consumption per capita? (3) Was the sudden decrease in prices of farm products due to the enlargement of the volume of exports?

Extent to which the volume of exports is abnormal.—The United States has always had a surplus of farm products for export. The trend in volume of this surplus is shown in Figure 32.

The trend in the volume of exports was downward from about 1897 until about 1909, with a slight interruption due mainly to the large exports of 1906. About 1910 there began an upward trend. This upward movement was interrupted by a downward movement from

about 1914 to 1917, followed by another large increase, mainly due to the enlarged exports of certain cereals. The average annual exports of wheat were over twice as great from 1919–22 as in the five years, 1909–13 (fig. 33). Comparing the same periods, the exports of rye, formerly of little consequence, increased from about 1,000,000 bushels to nearly 43,000,000, the direct exports of corn increased from 40,000,000 bushels to 82,000,000 (fig. 34), and the indirect exports of corn in the form of pork products were largely increased. There was also a considerable increase in the exports of tobacco. On the other hand, the exports of cotton since 1915 have been only 50 to 75 per cent of the average exports during the 5-year pre-war period (fig. 35).

The expansion in the volume of exports which followed the outbreak of the World War also corresponded to an increase in the crop acreage devoted to production for export[23] (fig 36). On

TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF COTTON, TOTAL AND PER CAPITA, UNITED STATES, 1909–1922.

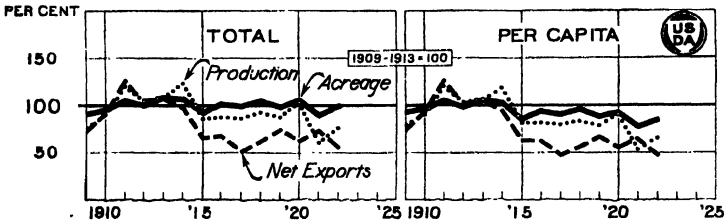


FIG. 35.—While there have been annual fluctuations in cotton acreage, there has been no marked trend either above or below the average for the five years just preceding the World War. However, the per capita acreage has decreased considerably. As a result of this, of the decreased yield due to the ravages of the boll weevil and of the decreased purchasing power of Europe, there has been a notable decline in exports of cotton since 1914.

the basis of 5-year averages the acreage devoted to production for export decreased from the 5-year period 1899–1903 through that of 1909–13, and in the latter 5-year period was only 80 per cent of the average for the period 1899–1903, inclusive. During this period of decreasing exports, there was apprehension that our nation would soon cease to be a net exporter of farm products. However, as a result of the stimulus of war demand, the average acreage devoted to export production for 1919–22 was 40 per cent greater than for the period of 1909–13 and over 13 per cent greater than in the preceding high period 1899–1903.[24]

Conditions which have made possible the increase in acreage employed in producing for export.—One might suppose that the great increase in the volume of cereal exports during the decade 1913–22 was made possible by a sudden expansion of the per capita area of

[23] Calculated on the basis of direct exports.

[24] In the latter half of 1923 there was a marked decrease in exports of cereals and cereal products. If this lower level is maintained during the remainder of the fiscal year, the acreage required to produce these cereal exports will be only about half the annual average 1919–22.

land in crops. However, as already noted, in the period from 1900 to 1922 the trend of crop acreage per capita was downward. In the period 1919–22 the per capita acreage in 12 principal crops was 10 per cent less than for 1899–1903. Furthermore, as pointed out before, the increase in exports was not due to an enlargement of the average yield per crop acre.

TOTAL AND PER CAPITA ACREAGE EMPLOYED FOR DOMESTIC USES AND FOR NET EXPORTS OF 12 PRINCIPAL CROPS, AVERAGE OF 5-YEAR PERIODS, UNITED STATES, 1889–1893 TO 1919–1922.

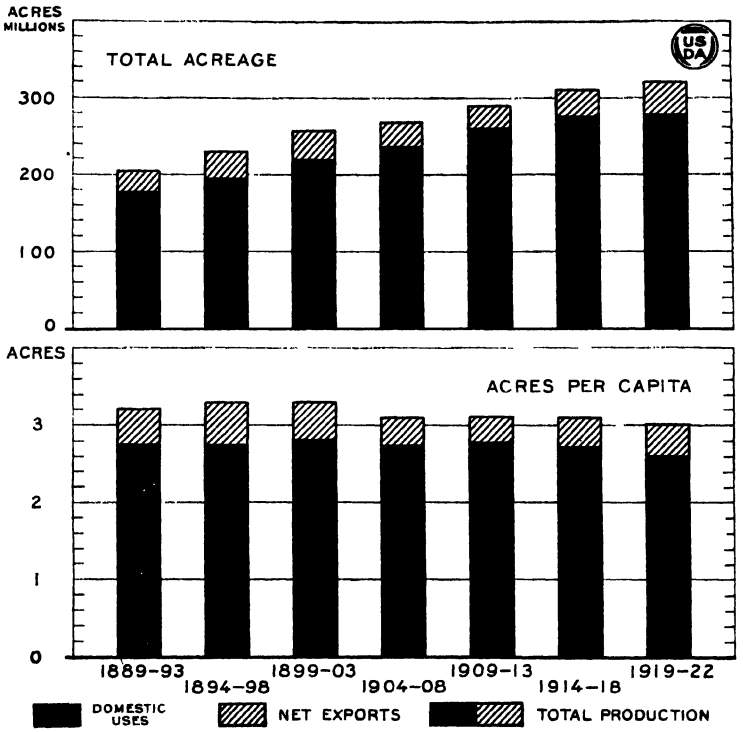


Fig. 36. The area devoted to these 12 principal crops has increased each decade, but the area per capita was less in the period 1919–1922 than in the period 1899–1903. The area per capita devoted to export production was less in the 1919–1922 period than in the earlier period, but in the 1919–1922 period, the export acreage per capita was a considerably larger proportion of the total per capita acreage than in any period since 1899–1903.

The expansion in the acreage devoted to export production, in spite of the downward trend of per capita crop acreage and the slight decrease in average yield per crop acre, took the form of increase in the area of the cereals, especially wheat, at the expense of other crops. Of the 23,000,000 acres by which the average area of the five cereals for 1919–22 exceeded that of 1909–13, wheat accounted for more than 18,000,000 acres. Most of the remainder is accounted for by increase in the acreage of rye, amounting to more than 100 per cent, together

with a slight increase in the acreage of oats. On the other hand, this is partly offset by slight decreases in the acreage of barley and of corn.[25]

The larger volume of exports made possible by reduction in acreage employed for domestic uses.—Since there has been neither an increase in the per capita area of crop land, nor, as compared with the average for 1903–1907, any increase in the yield per acre either of all the land devoted to crops or of the land devoted to the cereals, it is evident that the expansion in acreage devoted to production for export must have been made possible by a reduction in the acreage employed in producing for domestic uses. After subtracting the acreage devoted to direct exportation of crops from the total crop acreage, the remaining area per capita decreased from 3.15 acres in

TREND OF TOTAL ACREAGE AND PER CAPITA ACREAGE OF ALL CROPS FED TO LIVE STOCK, UNITED STATES, 1909–1922.

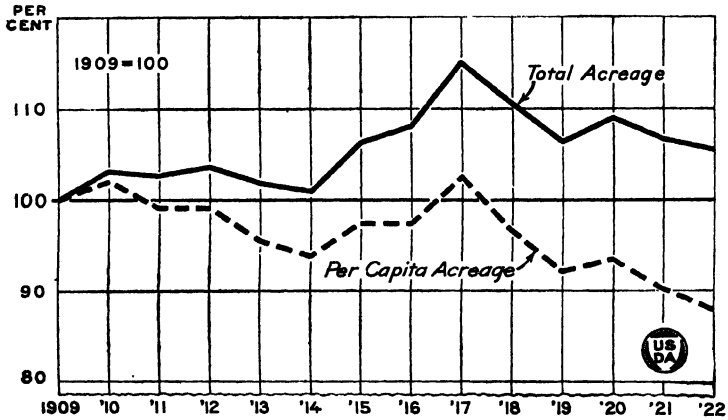


FIG. 37.—The per capita acreage of crops fed to livestock was steadily decreasing from 1910 to 1914. The World War resulted in considerable increase both in total and per capita acreage, but since 1917 there has been a rapid decrease in both regards.

1909–13 to 3.02 acres in 1919–22, or about 4 per cent. When the crop acreage required for the production of livestock and livestock products exported is also subtracted, the per capita area employed in producing for domestic uses decreased from 3.09 to 2.92 acres between these periods; and, finally, when allowance is made for the acreage used to support the horses and mules required to produce the crops and livestock products for export, the per capita acreage employed for domestic consumption declined from 2.99 to 2.82, or nearly 6 per cent.

As noted above, this reduction in the per capita acreage of crops employed for domestic consumption is largely accounted for by the smaller acreage used in producing feed for livestock, made necessary by the increased pressure on the crop area. As a consequence,

[25] Besides the cereal crops, the acreage of tobacco was considerably larger in the post-war period than in the pre-war period, but this is more than offset by a decrease in the acreage of cotton.

the per capita acreage in crops employed in producing feed for livestock decreased from an average of 2.6 for the years 1909–13 to 2.4 for 1919–22 (fig. 37). If the same per capita acreage had been employed in feeding livestock as in the former period, about 22,000,000 acres more would have been required, and this acreage is practically equivalent to the expansion in the area of the cereals during this period.[26]

The diversion of most of the acreage thus economized to increasing the production of wheat and rye was partly the result of the stimuli of the high prices and patriotic appeal of the war period; however, with the passing of these stimuli, the acreage has not returned to normal. The wheat crop of 1920, planted before the fall of prices in the latter part of 1920, was nearly 11,000,000 acres less than the area employed for the wheat crop of 1919; but during the next three years, following the fall of prices, there was no material reduction.[27] Notwithstanding the substantial decrease in wheat acreage in 1920 the acreage planted in 1923 was still 27 per cent larger than the average of the five years before the war. In spite of the discouragements of low prices and unfavorable seasons the farmers, especially in the regions of the Great Plains where there was notable expansion of the farming area mainly for wheat production, have found it difficult to effect a contraction of acreage in wheat. After the range was broken up, houses built, livestock and implements purchased, and heavy debts incurred, it has meant bankruptcy to let the land go back to pasture, and it has been difficult to shift to other crops.

Decreased demand in Europe a factor in causing the surplus of wheat.—It is important not to lose sight of the fact that there is a world market for wheat. It is well known that the war resulted in eliminating Russia temporarily as a large exporter of wheat, and in decreasing the production of other European countries. The increased supply from the United States and Canada was required to help fill this gap. After the war there was no increase in the world supply of wheat or other cereals sufficient to account for the slump in the world price. According to the world balance sheet prepared by the International Institute of Agriculture at Rome, the average annual production of wheat and rye available for the consumption of the world outside of Russia was about 8 per cent less for 1919–21 than for 1909–13. This decrease occurred in spite of an 11 per cent increase in the area devoted to the production of wheat and rye.[28] Yet the price fell far below the war-time average.

The cause of this phenomenon was largely decreased ability of the people of certain European countries to buy as much wheat and rye as formerly at the level of value per bushel which prevailed during the war or even during the pre-war period. Wildly fluctuating exchange rates, unstable currencies, political uncertainties, reduced production, tremendous changes in distribution of wealth, and in

[26] As shown above, these changes are largely the outcome of the reduction in the number of sheep and beef cattle per 1,000 people, and also in the number of horses per 1,000 people due to the substitution of other forms of motive power.

[27] The acreage harvested in 1920 was 14,500,000 acres less than in 1919, nearly 5,000,000 in 1920 not being harvested because of crop failure. In 1923 over 6,000,000 acres were not harvested. The acreage harvested was about 17,000,000 acres less than in 1919 and 3,000,000 less than in 1920, but 11,000,000 acres more than the pre-war acreage, 1909–13.

[28] Yearbook of the International Institute of Agriculture, 1921, p. 65. Since 1921 there has been an increase in world production due largely to the expansion of wheat production in Europe outside of Russia.

some countries protracted unemployment have forced drastic economies even in such vital essentials as the cereals. For instance, the four countries included in Figure 38 were not able to purchase enough more net imports, even at the bargain prices of the past few years, to offset the decrease in their own production.

PERCENTAGES BY WHICH THE COMBINED AVERAGES OF PRODUCTION, NET IMPORTS, AND CONSUMPTION OF CEREALS IN GREAT BRITAIN, FRANCE, GERMANY, AND ITALY DURING THE THREE YEARS 1919–1921, WERE ABOVE OR BELOW THE CORRESPONDING AVERAGES FOR 1909–1913.

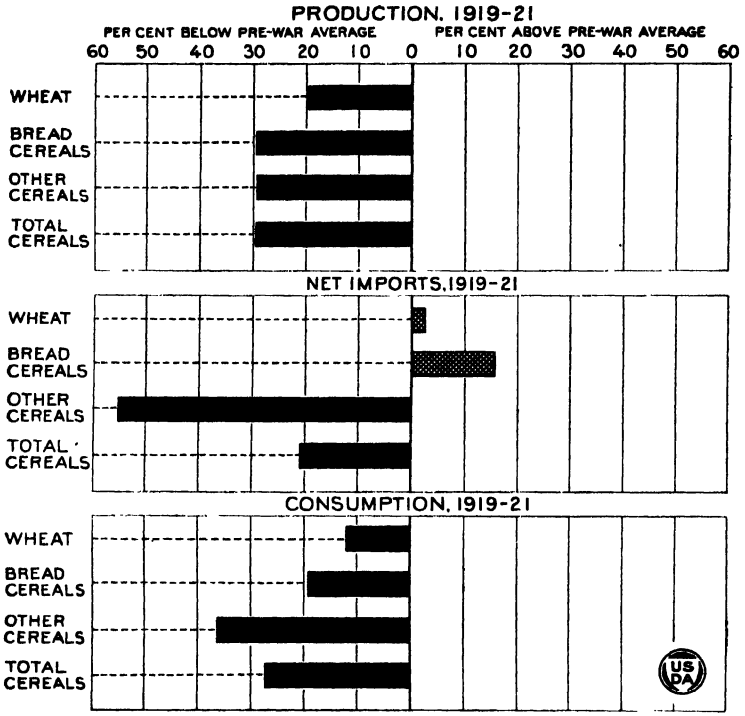


FIG. 38.—The consumption of cereals in the four countries was far below the pre-war average, though the deficit was less for the bread cereals (wheat and rye) than for other cereals; and less for wheat than for rye. After allowing for the slight increase in population, it is evident that in the years following the war the people in these countries were eating only about 80 per cent as much bread cereals and had available for consumption only about 60 per cent as much other cereals as in the years just preceding the war. These deficits in consumption were partly made necessary by the great falling off in production and partly (except in the case of the bread cereals) to the falling off of imports. While the imports of bread grains were somewhat larger than in the pre-war period, this was not sufficient to make up for the heavy deficits in production and in the importation of other cereals.

In short, the interruption in the manifestations of the trend toward increasing scarcity of land in the United States was due partly to a gradual reduction in the per capita acreage of crop land employed for producing livestock for domestic consumption and in maintaining horses, partly to the overexpansion in the per capita acreage of wheat and rye at the expense of the per-capita area in other crops, and partly to a sudden decrease in ability of the Euro-

pean peoples to purchase the accustomed quantity of our wheat and pork at prices which permit a profit to our farmers. Temporarily these conditions have made our available crop acreage appear superabundant.

Some years may be required to restore the normal balance between acreage in cultivation and demand for farm products. The buying capacity of the nonagricultural populations of Europe, reduced by disturbed political and financial conditions and by unemployment, is still not showing signs of immediate improvement; but European agriculture has been steadily recovering and the tendency toward a greater degree of self-sufficiency increasing. Russia may shortly regain a part at least of its former importance as an exporter of wheat. The great increase of wheat acreage in Canada from an average of 9,945,000 acres for 1909–13 to an average of 21,155,000 acres for 1919–23 was accomplished almost entirely by the expansion of the total acreage of land in crops.[29] There has been little tendency to reduce this acreage, in spite of the discouragements of low prices, and there is reason to believe that the greater part of this new Canadian wheat acreage is permanent.

Offsetting this somewhat "bearish" outlook is the fact that the population of the world is increasing at the rate of about 20,000,000 a year, and the population of the United States about 1,500,000 a year.[30] Within a few years the increase in population is likely to bring to an end this temporary deviation from the long-time trend toward an increased pressure of population on land resources. A great war might temporarily cause higher prices, and bad crop seasons in important producing countries might also raise the price level.

The Cutting of Forest Products From a Stored Crop Has Also Obscured the Actual Relation Between Land Supply and Land Utilization.

Since the first settlement of our country we have been cutting our timber from the stored-up product of past years. To use a now familiar expression, our timber supply has been treated as a "mine" instead of as a "crop." Since the original settlement of the country we have reduced our area of virgin timber from an estimated 822,000,000 acres to about 138,000,000 acres. While we have been engaged in cutting from our virgin forests, there has grown up largely spontaneously a supply of second-growth timber, amounting at present to about 122,000,000 acres of saw-timber size and 142,000,000 acres below saw-timber size (suitable for cordwood, ties, posts, etc.). (See figures 1 and 41.) However, we are still cutting timber from our forests at a rate nearly four times the annual aggregate amount of growth of timber. Moreover a considerable part of the former forest area has been devoted to improved farm land; consequently the area of forest has constantly decreased (fig. 39).

The effect of this cutting of our timber mainly from a stored supply is to create while it lasts an apparent abundance of land available for crops and pasture. We are removing the timber from land at the rate of approximately 10,000,000 acres a year, and since we are not deliberately devoting this area to reforestation the surface po-

[29] Yearbook for 1922, International Institute of Agriculture and preliminary estimate for 1923, Dominion Bureau of Statistics.

[30] Tylor, W. Russell. The Natural Increase of Contemporary Peoples. An unpublished doctoral dissertation prepared at the University of Wisconsin.

ACREAGE OF FOREST LAND CONTRASTED WITH ACREAGE OF IMPROVED FARM LAND, UNITED STATES, 1850–1920.

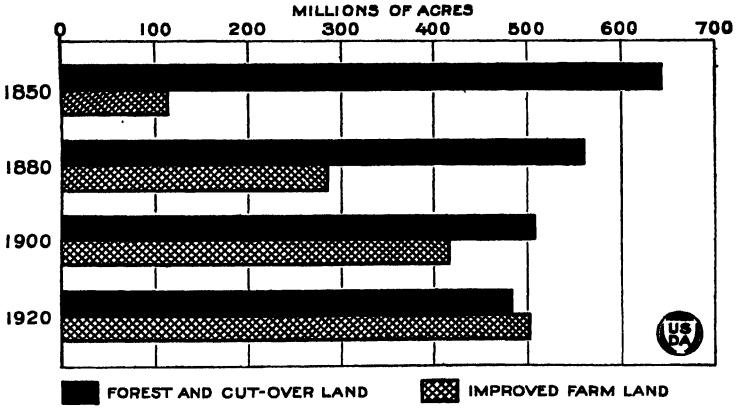


FIG. 39.—The steady increase in the area of improved farm land has been accompanied by a continual but much smaller decrease in the area of forest land. However, less forest land is being cleared for crops or pasture each decade. From 1910 to 1920 only 5 per cent of the increase of "improved" and "other unimproved" land in farms, or about 5,000,000 acres, occurred in forested areas, most of the increase being in the Great Plains region and other grassland areas of the West. (See fig. 16.) At the rate of clearing between 1910 and 1920 it would require several centuries to clear the area of forest which has been cut over during the past 20 years. The figures for improved land are from the census, but the figures of forest area are estimates.

tentially available for the other uses is being correspondingly increased. However, only a small proportion of this area annually denuded is being cleared for crops or pasture. Much of the cut-over area is of poor quality of soil, and the expenses of clearing and in

PER CAPITA ACREAGE OF FOREST LAND CONTRASTED WITH THAT OF IMPROVED FARM LAND, UNITED STATES, 1850–1920.

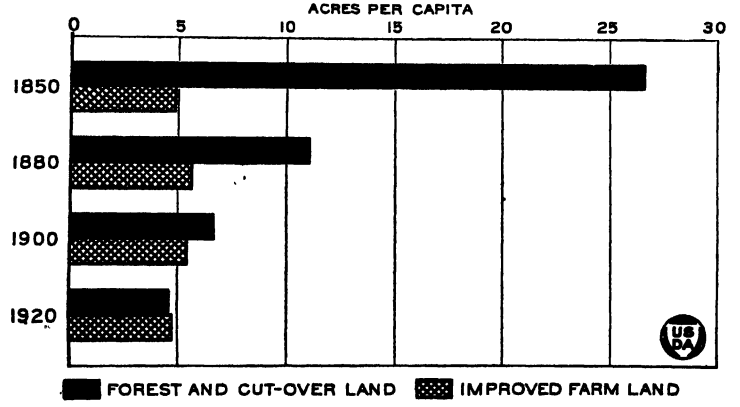


FIG. 40.—The estimated per capita area of forest land in 1920 was about a sixth as large as it was in 1850. The per capita area of improved farm land was nearly the same for the two periods, but it was somewhat less in 1920 than it had been in 1880.

some cases of drainage do not at present justify its use for the production of crops. Theoretically, this land would be suitable for grazing. In some sections, notably in the Lake States, clover and other nutritious grasses thrive. However, the natural pasture is for the most part inferior in those sections of the country where the process of cutting is at present most rapid, as in the South and the Pacific coast. The trees and brush, usually growing more rapidly than the grasses, soon shade the ground, and destroy most of the herbaceous vegetation.

As long as we can depend for our timber on a stored supply, disregarding the advancing prices forced by increasing scarcity, and making no provision for growing new forests, we can get along with a much smaller forest acreage than if we were actually growing a crop of timber to supply our needs. Under this policy of denuding our timberlands we are rapidly reducing the area of land devoted to forests, even allowing for the fact that some of the cut-over forests spontaneously grow a second crop, and some, notably those in public ownership, are managed for continuous growth. The denuded land adds to the already large reserve supply of land potentially capable of being used for crops, pasture, or intensive timber growing but actually not being employed for these purposes.

Such are the conditions which seem to create for the time being a "fool's paradise" of abundance of land resources available for the three important uses under consideration. But we are unquestionably nearing the end of this phase of our economic evolution (fig. 40). If we should be willing to cut our timber supply right up to the last tree, with no provision for the future, we should reach the end of the road within a few decades at the present rate of cutting; for, even allowing for annual growth, our stock of saw timber would hold out less than 50 years, and our stock of smaller timber, only a little more than 30 years. This makes no allowance for any increase in the annual cut due to increasing population, and therefore implies a diminution in per capita consumption.

The advancing prices of timber and timber products due to the increasing scarcity and remoteness of the supply will cause us to curtail our per capita consumption much below the present amount, and will force us to devote abandoned cut-over lands to timber growing, expecially in the East. This may result in a sharp competition between timber on the one hand and crops or pasture on the other hand, at least for marginal lands. A large part of the remaining reserve is on the Pacific coast much farther from the present centers of consumption (the Northeast and Middle West) than our former main supplies (fig. 41). Much of our reserve of timber is in rough mountain regions. Long freight hauls and costly logging are resulting in higher prices for timber, and in a gradual reduction of per capita consumption.

Owing to the long time required to grow timber—30 or 40 years for pulpwood and 40 years and up for saw timber—an unnecessarily severe reduction in per capita consumption of timber and timber products and even a near approach to almost complete deprivation can be avoided only by measures that will place our lumber industry on a basis of providing for the replacement by reforestation of timber removed. The growing national pressure toward a definite forest

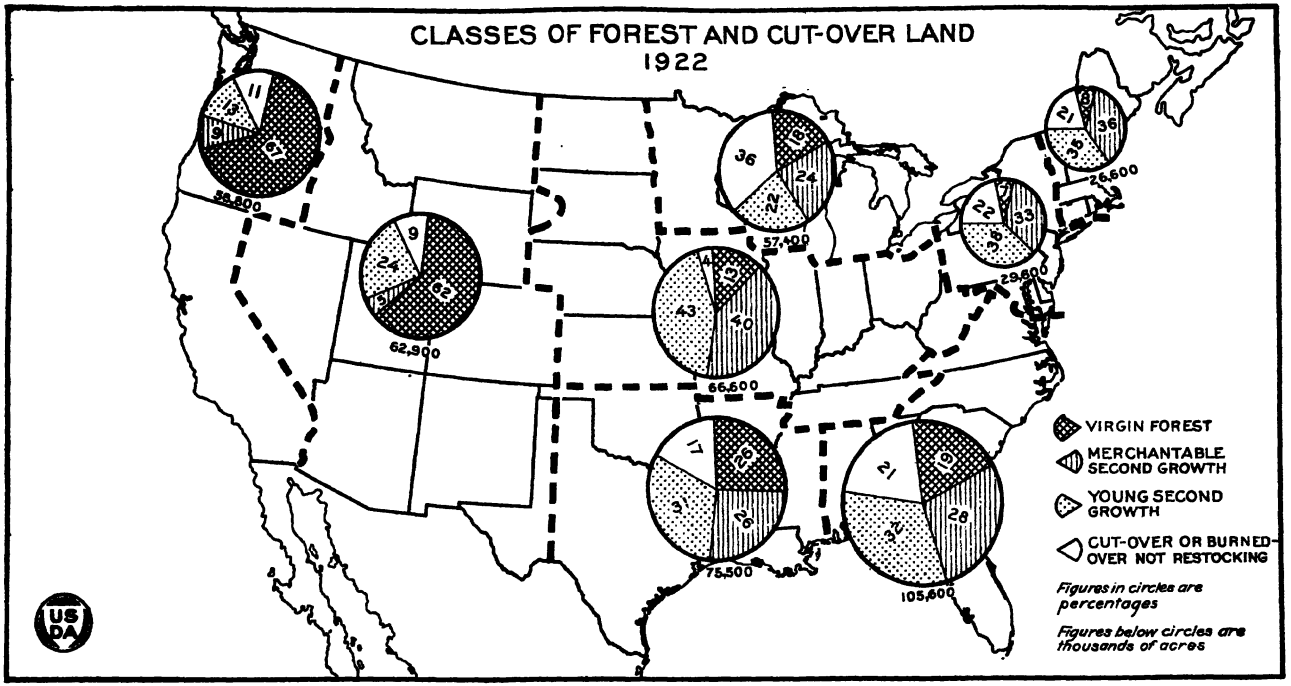


FIG. 41.—In six of the eight regions, all in the East, only about 40 to 53 per cent of the forest area consists of merchantable timber. In these regions the area of virgin timber ranges from 7 to 26 per cent of the total. On the other hand, in the Rocky Mountain and Pacific coast regions the area of virgin timber constitutes about two-thirds of the total. In the Pacific Coast States less than one-fourth of the area is nonmerchantable forest.

policy, and later the tendency toward private timber growing that will be stimulated by rising prices, must be relied on to bring about reforestation. Provisions for growing our timber supply, of course, will tend to reduce the area of idle cut-over land that appears to be available for crops and pasture.

The magnitude of the readjustment that is involved in the inevitable change from the present reliance on cutting from a stored crop to the basis of growing the greater part of our supply may be illustrated by a simple calculation. At the present rate of per capita consumption and waste, and rate of growth in our growing forests, 1,465,000,000 acres would be required to grow timber for a population of 150,000,000 people—more than three-fourths of our entire land surface and about a third more than our entire humid area.

The manifest impossibility of the conclusion emphasizes the fact that we shall shortly find it necessary to make drastic modifications in our rate of consumption of timber, in our rate of growth, or in both. The probable extent of these readjustments and the land requirements involved can best be considered at a later stage of this discussion.

Relation of Foreign Trade to Present Land Requirements.

Before considering the effect of increasing population on our requirements of land for crops, pasture, and forest, it is desirable to determine what proportion of our productive area is employed in production for export; for it is clear that, as our need for land increases, it might be possible to divert to domestic use the products of at least some of the land now employed in producing for export. Furthermore, we may well determine to what extent the importation of agricultural and forest products reduces the amount of land that would otherwise be required to supply existing needs.

Crop Land Required to Produce the Exports of Agricultural Products.

The acreage of crop land employed in producing for export falls into three classes: (1) That which is employed in producing crops for direct export either in the original or in manufactured form, as, for instance, wheat or wheat flour; (2) the acreage used for feeding livestock the products of which are exported; (3) the land required to produce feed for work stock employed in producing for export.

Crop land required to produce the crops directly exported.—Table 1 and Figure 36 show the crop area used for direct exportation, but not that employed indirectly for export production. The 12 crops included in the table occupy nearly 90 per cent of the total area used in crop production, and they represent practically all of the area devoted to the production of crops directly exported. Columns F and G show the remaining crop acreage after deducting the crop acreage employed for crops directly exported.

TABLE 1.—*Total and per capita acreage utilized for total production, domestic consumption, and net exports of 12 important crops of the United States.*

Period.	Production acreage.		Acreage equivalent of net exports.[1]	Acreage equivalent of direct net exports[2] of surplus commodities.		Remaining acreage[3] (employed for domestic uses, including the feeding of livestock).	
	A	B	C	D	E	F	G
	1,000 acres.	*Per capita acres.*	*1,000 acres.*	*1,000 acres.*	*Per capita acres.*	*1,000 acres.*	*Per capita acres.*
Average, 1889–1893	206,668	3.22	29,496	30,055	0.47	177,172	2.76
Average, 1894–1898	231,884	3.27	36,362	36,921	.52	195,522	2.76
Average, 1899–1903	258,372	3.32	38,003	38,550	.50	220,369	2.83
Average, 1904–1908	269,269	3.14	32,002	32,811	.38	237,267	2.76
Average, 1909–1913	291,396	3.11	30,583	33,158	.35	260,813	2.78
Average:							
1914–1918	312,080	3.10	36,874	41,102	.41	275,206	2.73
1919	325,463	3.10	38,102	46,460	.44	287,361	2.74
1920	320,732	3.01	41,839	50,016	.47	278,893	2.62
1921	322,228	2.99	54,336	59,325	.55	267,892	2.48
1922	322,105	2.95	37,352	43,295	.40	284,753	2.61

[1] The 12 crops are corn, wheat, oats, rye, barley, rice, flax, hay, potatoes, cotton, tobacco, and buckwheat.
[2] The term "net exports" is employed not in the sense of total excess of all agricultural exports over agricultural imports, but merely to indicate that in the case of the principal export crops included in the table reductions were made for the comparatively minor imports of the same crops.
[3] This includes the area used in feeding livestock for export.

Crop land required to produce the livestock and livestock products exported.—It is estimated that about 70 per cent of our crop area is employed in feeding livestock. Of the total crop area indicated by the census of 1920, approximately 257,000,000 acres, or 2.43 acres per capita, were employed for this purpose (fig. 37).[31]

Of the total of 257,000,000 acres, the various classes of livestock shared in approximately the following proportions:[32]

	Acres.
Hogs	63,000,000
Cattle	89,000,000
Horses and mules	90,000,000
Poultry	10,500,000
Sheep	4,500,000
Total	257,000,000

In order to ascertain what proportion of the above acreage is devoted to the production of livestock for export, it is necessary to determine the proportion of the various kinds of livestock and livestock products exported in terms of live animals.

The exports of animal foodstuffs from the United States at present are practically confined to pork products and animal fats. During the half decade preceding the war our net exports of pork and pork products were about 11 per cent of the total production. The war demand caused an expansion to a maximum of about 24 per cent in 1919. In 1920 the net exports of pork products were equivalent to 9,100,000 hogs, or about 15 per cent of the total production.

[31] See preceding article, "Our Forage Resources," p. 311.
[32] Based on estimates made from results of a survey by United States Department of Agriculture in 1918, showing farm consumption of feed crops by each class of livestock. See Yearbook for 1920, p. 811.

Up to and including the first years of the twentieth century the United States exported a considerable amount of beef, including live cattle. The exports of beef then steadily declined until, during the half-decade just preceding the war, they amounted to slightly more than 1 per cent of the total beef production. During the war our net exports of beef rose to 4 per cent of the production, but they have been steadily declining since the war, and allowing for net imports of live cattle into the United States, it appears that we are now net importers of beef.

The other meat products produced in the United States have little or no significance in our foreign trade. Our exports and imports of mutton and lamb have been virtually negligible in recent years.[33] We are, of course, largely dependent on foreign sources of supply for wool. The production of veal is comparatively small, and the entire amount produced is consumed in the United States.

The net balance of trade for dairy products before the war showed that the United States was a net importer to the extent of about 0.05 per cent of the national production for 1909–13. Our exports of dairy products increased steadily during the half-decade 1914–18, reaching a peak in 1919. But the volume of exports has since declined, and during 1923 the United States was again a net importer of dairy products.

In brief, the United States is at present a surplus producer in only one important class of animal products, pork products including lard. Since it is estimated that the product of about 63,000,000 crop acres annually is fed to hogs, it appears probable that our average exports of pork and lard for the years 1914–22 (about 15 per cent of the total [illegible]tion) required the employment of about 9,500,000 acres of c[illegible]f

The average area f[illegible] 1914–22 devoted to crops for direct exportation was 39,550,000 acres. Adding to this the above estimate of crop acres used for producing livestock or livestock products for export, we may conclude that our export trade represented in round numbers 49,000,000 acres of crops.

Crop land required to feed the work stock employed in producing agricultural exports.—However, allowance should also be made for the crop acreage required to maintain the horses and mules employed to produce the crops and livestock or livestock products exported. Since about 13.4 per cent of the crop acreage is required to produce the crops and livestock products exported, it would seem fair to assume that an allowance of 13.4 per cent of the 90,000,000 acres required to feed horses and mules should be included in the acreage required to produce the agricultural exports. This would amount to about 12,100,000 acres, making a total of 61,100,000 acres of crop land directly or indirectly used for export production, which is nearly 17 per cent of the total crop acreage, leaving about 304,000,000 acres employed for domestic consumption, on the basis of the acreage of harvested crops in 1919 (fig. 42).

Consequently, if we could devote our total crop acreage to production for our own use we might maintain, on the basis of the crop acreage of 1919, an increase of population amounting to about

[33] The large importation of mutton in 1920 was due to an extraordinary combination of conditions. The English market at that time was glutted with an oversupply of mutton, and favorable ocean freight rates on ships outbound and high prices in the United States were the primary causes of the movement.

21,000,000 people, and that without modifying our standard of consumption.[84]

However, even when the pressure of population on land resources becomes much greater than at present, it is not likely that all the

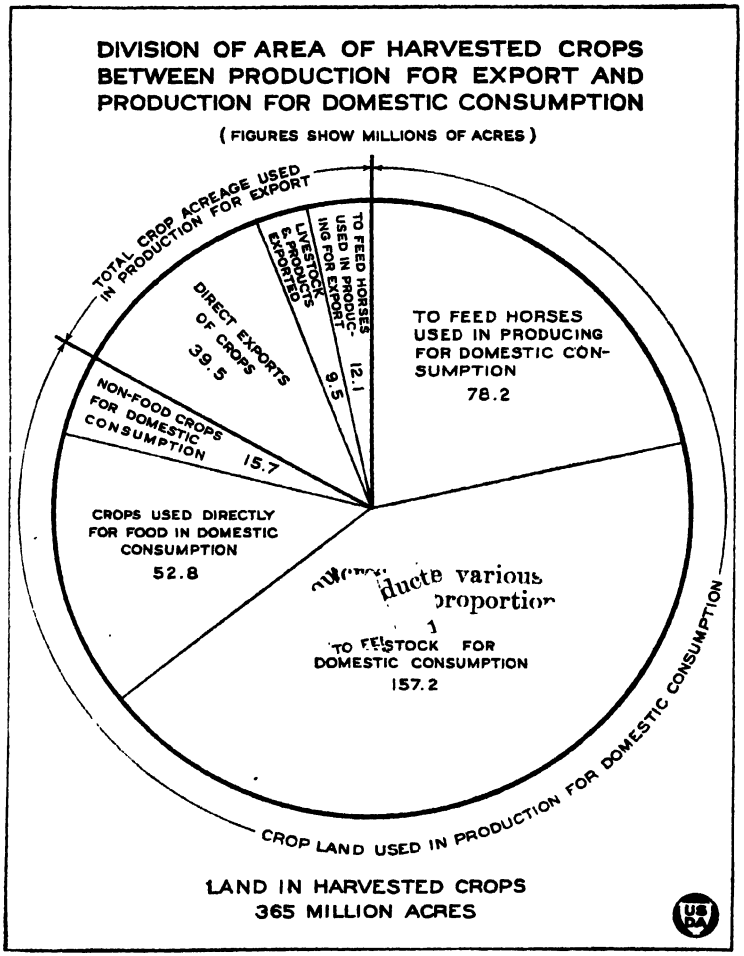


FIG. 42.—While the acreage in crops directly exported was a little less than 40,000,000 in the period 1914–1922, inclusive, account must also be taken of the acreage employed in producing livestock and livestock products for export and in maintaining horses employed in producing for export. Including estimates for these items, it appears that about 61,000,000 acres of harvested crops was employed directly or indirectly in production for export, or nearly 17 per cent of the total acreage of harvested crops in 1919, and a little over 20 per cent of the estimated acreage employed in production for domestic consumption. Of the area used in producing for domestic consumption less than 16,000,000 acres consists of crops not used for feed for livestock or for human food, and allowing for the horses used in producing these crops, about 21,000,000 acres, or less than 7 per cent of the total acreage employed in producing for domestic consumption, were in crops not used for food, directly or indirectly.

[84] This, of course, assumes that we could increase our imports of agricultural products in the same proportion.

acreage now employed in producing for export will be devoted to domestic uses. There are certain commodities for which we have peculiar natural advantages. For instance, we are likely for a long time to produce some cotton for export even if we find it necessary to enlarge our imports of other farm products to make up for the acreage used in producing cotton for foreign consumption. In short, during the next few decades we shall likely divert part of our export acreage to domestic uses, but undoubtedly not all of it unless we restrict severely the importation of farm products.

Relation of imports of farm products to requirements of crop land.—In general, our imports may be considered to economize acreage, but this conclusion involves certain reservations. Some of our imports, such as coffee, cocoa, rubber, and sisal, are practically incapable of being produced in our own country. If we do not import them, our alternative is to do without them. Except as they may serve to replace by substitution other commodities that we can produce, their importation can scarcely be said to economize our land requirements. Certain other articles of importation, such as coconut oil, can not well be produced in this country in considerable quantities, but we can produce close substitutes. Consequently, to all intents and purposes the imports economize the acreage employed for domestic consumption. A large volume of imports consists of commodities, such as sugar, silk, tea, flax fiber, and wool, which, so far as physical conditions are concerned, could be produced in this country, but which are produced abroad more economically. In part this is due to more favorable physical conditions in other countries; in part to more favorable economic conditions, particularly cheaper labor.

All in all, many of our imported agricultural products could be produced in the United States or are substitutes for other things that could be produced here so far as physical conditions of production are concerned. Hence, the importation of these things may be considered to economize whatever acreage of crop and pasture land would be required to produce them or their substitutes. If circumstances required us to provide for complete national self-sufficiency in agricultural production, it would be necessary to add to our per-capita acreage an additional acreage sufficient to make provision for our present imports.

In the calculations of land requirements for domestic consumption attempted in this article, it appears best to assume as constant the present relative dependence on foreign imports. As our population increases, under such an assumption, the total volume of imports would increase in proportion, but the per capita quantity would remain the same.

Total and Per Capita Area of Pasture Employed in Producing Livestock for Export and for Domestic Consumption.

Our only important class of livestock exports—pork and pork products—involves a relatively small use of pasture, and that only of humid pasture. A rough estimate indicates that probably 7,500,000 acres of humid pasture is employed in producing our net exports of livestock and livestock products. This is about 3 per cent of our total area of humid pasture. In addition to this, however,

allowance must also be made for a larger item, namely, the pasture used by horses employed in producing crops or livestock products which are exported, estimated at about 14,500,000 acres (fig. 43).

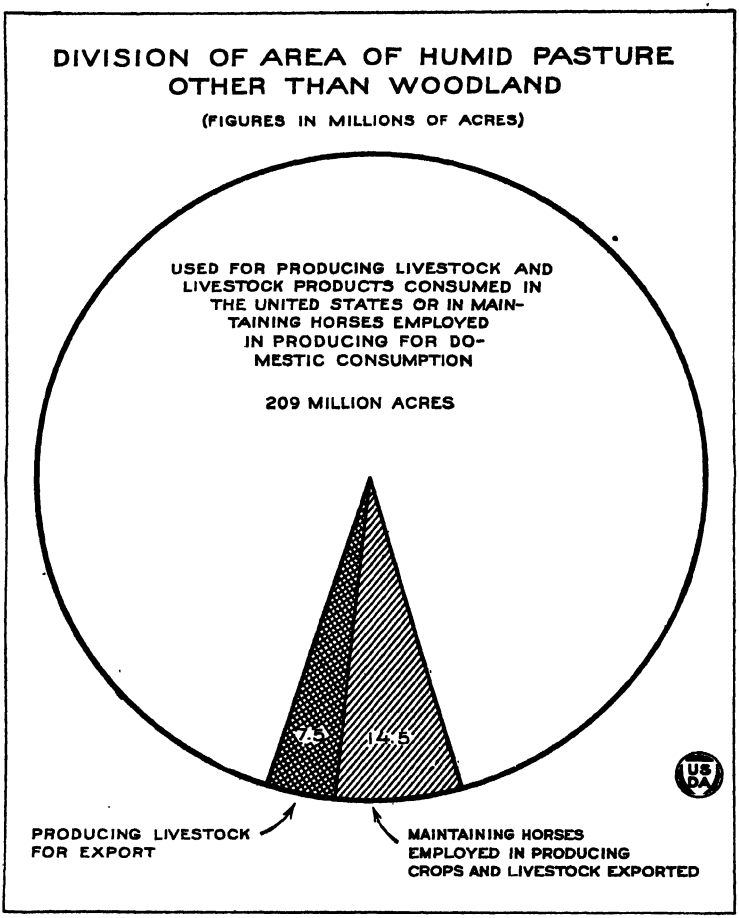


FIG. 43.—The average exports of livestock and livestock products for the period 1914–22 required only a small proportion of our pasture area, and the entire amount has been imputed to humid pasture, because the products exported were essentially the products of humid regions. The acreage of pasture employed in maintaining horses and mules used in producing for export is also imputed to humid pasture, because the semiarid pasture is essentially a limited quantity, humid pasture being the principal variable element in our supply of pasture land. Altogether, about 22,000,000 acres, or less than 10 per cent of the area of humid pasture other than woodland, are employed in production for export.

Relation of Foreign Trade in Forest Products to Land Requirements.

As in the case of pasture, so in the case of forest land, our foreign trade makes but little difference so far as land requirements are concerned. At the present time our exports and imports of forest

products nearly balance one another, and in proportion to the total cut of the United States neither is a large amount. Consequently, it will be fair to assume that the present annual cut measures approximately our national consumption of timber products.

Furthermore, it is believed by students of forestry that we can not hope to rely to a large extent on importation as a means of meeting our needs of timber in the future. This conclusion rests partly on the great costs involved in transporting so bulky a product long distances, and partly on the scarcity of accessible timber in the rest of the world in relation to world needs. The timber consumption of the United States is already nearly half that of the entire world. It is scarcely probable that a large proportion of this consumption could be derived from sources outside this country.[35]

Land Requirements in Relation to Increasing Population.

We have become accustomed in this country to the continued increase of population. Since the decade 1850–1859, when population growth was at the rate of 35.6 per cent, there has been a general tendency toward a decrease in the percentage of increase, although up to 1910 the actual increase was larger each decade. However, from 1910 to 1920 the absolute increase in population was only 13,738,354 as compared with 15,977,691 from 1900 to 1910, and the rate of increase fell from 21 per cent to 14.9.

The restriction of immigration and the uncertainty as to the future policy have complicated the problem of estimating the increase of population. However, it has long been believed that immigration does not add to the population by the full number of immigrants, for immigration appears to retard the natural rate of increase of the native population.[36]

The total population increase of 13,738,354 from 1910 to 1920 included an increase by net immigration of 3,467,000.[37] If this volume of increase were continued during the next three decades, our population would be 150,000,000 people by about the middle of the century. Even the rate of natural increase for the past few years (estimated at approximately 10 per 1,000), without any addition from immigration, would, if continued, result in 150,000,000 people shortly after 1950. The employment of a mathematical formula for projecting population growth on the basis of past experience suggested by Professor Raymond Pearl would indicate a population of 150,000,000 by 1952.

It seems probable, therefore, that we shall have that number of people dependent on our land resources within a few decades, if not exactly by the middle of the century, and it is well to estimate the land required to maintain such a population.

If we should continue to employ for a population of 150,000,000 the same per capita amounts of crop and pasture land as are now

[35] For more detailed discussion see article, "Timber: Mine or Crop," Yearbook, 1922.

[36] Some students of the subject have even believed the effect of immigration is merely to displace an equivalent number of native population, so that at the end of a given period the native population is smaller than it otherwise would have been by approximately the volume of immigration during the period.

[37] Rossiter, W. S., "Increase of Population in the United States, 1910–1920." Census monograph No. 1, 1922, p. 204.

used for domestic consumption, the land requirements for these two uses would be as shown in Table 2.

The only items that have been varied in the following table as compared with present requirements are crop land and "other humid pasture." The present area of semiarid pasture is practically a maximum that can not be increased to any considerable extent. If anything, it will be decreased somewhat during the next few decades as a result of the encroachment of crop land; but the total reduction in acreage is not likely to be large, and the carrying capacity of this land is so low that the relative reduction in livestock maintained is a very small quantity. Consequently, throughout the subsequent estimates the item is kept constant.

TABLE 2.—*Crop and pasture land that would be required for 150,000,000 people assuming no change in per capita consumption and production per acre, also no exports of agricultural products and no change in per capita imports.*

Use of the land.	Area.
	Acres.
Crop land	431, 000, 000
Woodland pasture	237, 000, 000
Other humid pasture	[1] 336, 000, 000
Semiarid pasture	587, 000, 000
Total	1, 591, 000, 000

[1] As a result of assuming the acreage of semiarid pasture and woodland pasture to remain constant, the area of other humid pasture is increased in greater proportion than the increase of population.

The same practice has been followed with respect to forest and cut-over pasture. If we knew what areas of land will be in forests 30 years from now it might be easier to determine the probable increase or decrease in the area of woodland pasture. According to the present trend, the area of forest land appears to be decreasing. However, most of the area of forest reduced by cutting will be either reforested or will be suitable only for grazing. In either case woodland pasture is potentially land that is likely to be continuously employed for grazing. Moreover, its carrying capacity is so low that a large increase or decrease in area does not result in a very marked modification of the number of livestock that would need to be provided for by other kinds of pasture.

It has already been noted that if the present policy continued the area of land in forests, beginning with approximately 402,000,000 acres of standing timber, will rapidly diminish until the point of approximate exhaustion is reached. On the other hand, if we wish to provide enough forest land to grow our timber, a much larger quantity of land will be required; at the present rate of growth and of waste and consumption per capita the enormous area of 1,465,000,000 acres would be needed for a population of 150,000,000 people. The impossibility of such an outlook is emphasized by combining this area with the 1,591,000,000 acres of crop and pasture land which, as shown above, would be required under similar assumptions. The total resulting requirement would be 2,819,000,000 acres after allowing for duplications, or about 48 per cent more than the present land area of the continental United States.

The result suggests that if we are to maintain our present degree of self-sufficiency, for a population of 150,000,000 we must increase

the average production per acre of our crop, pasture, and forest land, effect marked reductions in per capita consumption of farm and forest products, or make changes in both regards. Therefore, some consideration of the probable extent of these changes is important; not only because of the significance of the changes, but also on account of their bearing on land requirements for the several uses.

Economy in Land Requirements Through Increase of Yield Per Acre.

Crop Land.

In the past our agricultural progress has been largely by way of economizing in the use of labor, rather than in the use of land, by substituting machinery and other labor-saving devices for man power. The great progress in productivity per man is indicated in Figure 44. Since 1870 the product per unit of man labor appears

TRENDS OF TOTAL POPULATION, OF NUMBER OF PERSONS ENGAGED IN AGRICULTURE, AND OF AGGREGATE VOLUME OF PRODUCTION FOR 10 PRINCIPAL CROPS, UNITED STATES, 1870–1920.

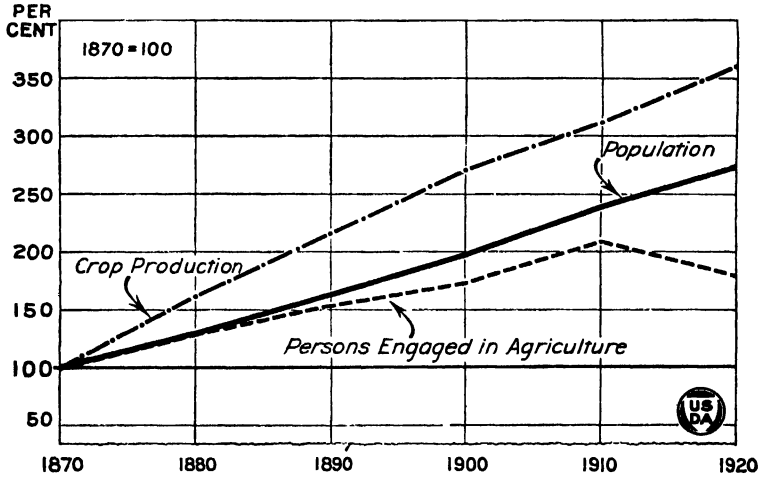


FIG. 44.—The chart indicates that the ratio of population to crop production has not changed greatly since 1880, but that since 1870 the volume of crop production has increased much more rapidly than the number of persons engaged in agriculture. In fact, in 1920 the index of crop production was more than double the index for persons engaged in agriculture. Some allowance should be made for the fact that the date of the census was changed from April 15 in 1910 to January 1 in 1920, a time of year when the number of persons reported as engaged in agriculture is likely to be a minimum. However, it seems clear that the amount of crops per capita and the amount per man engaged in agriculture were both considerably larger in 1920 than in 1870.

to have approximately doubled. It is true, we must not reckon this as an exact measure of increased efficiency. Much of the labor saved in agriculture by using machinery is offset by the employment of labor in cities in producing the machines or represents the transfer to cities of various lines of production and services formerly carried on in the country.

Some progress has also been made in yield per acre (fig. 45). Between the 5-year periods 1883–87 and 1903–07 the average acre yield of nine important crops increased about 19 per cent; but between the latter date and the 5-year period 1918–22 there seems to have been a decrease, so that in the last-mentioned period the average yield per acre was a little over 16 per cent above that of 1883–87. This is small compared with an apparent increase in the productivity of man labor since 1870 of about 100 per cent.

INDEX OF YIELD PER ACRE OF EACH OF SIX IMPORTANT CROPS AND COMBINED INDEX OF NINE IMPORTANT CROPS, BY 5-YEAR AVERAGES, UNITED STATES, 1883–87 TO 1918–22.

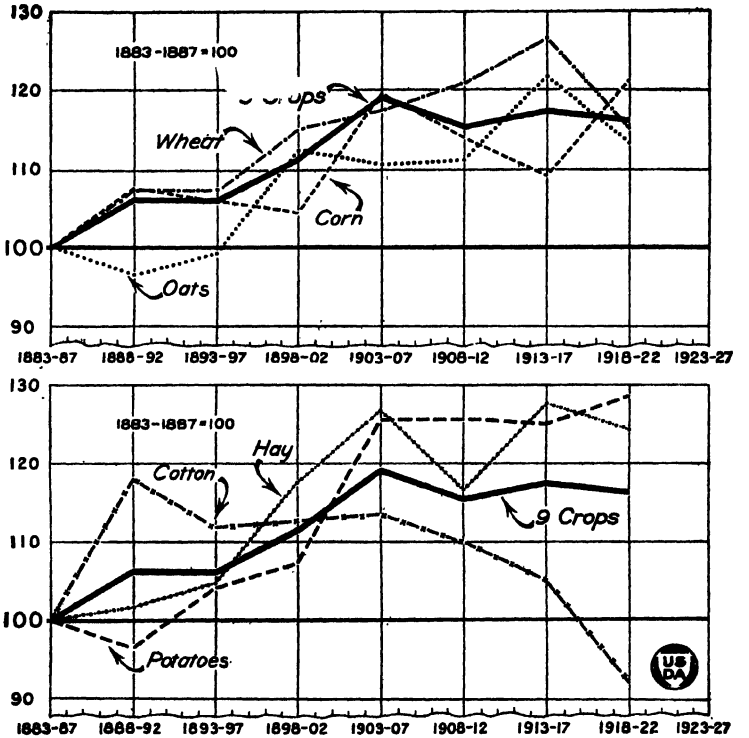


FIG. 45.—The five-year average yield per acre was higher in 1918–22 than in 1883–87 for all of the six crops except cotton. However, the average yield for 1918–22 was lower than it was in 1903–07, not only of cotton but also of wheat, oats, and hay. The composite curve for nine principal crops, shown by the heavy black line, also indicates a slightly smaller average yield in 1918–22 than in 1903–07; though about 16 per cent above the average yield for 1883–87. The composite curve was made by weighting the yield of each crop by its relative acreage in the period 1908–12.

An analysis of the changes in yield per acre of some of the crops making up the above average will be helpful in explaining the trend. The failure of the increase in yield per acre to continue after the period 1903–07 appears to be attributable mainly to cotton and wheat. In the case of cotton the result is probably owing largely to

the boll weevil. In the case of wheat the decrease in average yield is due, in part at least, to the expansion of the crop area onto the less productive lands of our semiarid region. The trend in the yield of corn and oats during the past two decades has been so erratic as to make explanation difficult.

In general, the changes in average acre yields of the several crops must be regarded as the result of a number of forces, some working toward higher yields and others in the opposite direction. On the one hand, we have scientific progress and the more widespread use of improved methods, together with the greater employment of fertilizers; but apparently there has been a tendency for these forces to be offset by the declining fertility of some of our old crop land, by the spread of plant disease and insect pests, and possibly also by the necessity of expanding our crop area by the inclusion of lands of fertility lower than the average for lands formerly employed.

It is important also to reckon with the inertia of large masses of agricultural population, partly due to innate conservatism, partly to lack of information, partly to inadequate capital, and partly to other limiting conditions. Even the development of a most elaborate system of educational extension can not be expected to raise the average yield in practice to the point theoretically possible on the basis of improved methods known to the best agriculturists. Finally, it is probable that because of the comparative abundance of land resources in this country our farmers have not as yet found it profitable to adopt methods of increasing production per acre which require an increased expenditure for labor, fertilizers, and other factors in proportion to the product.

The course of events since the beginning of the World War has appeared to intensify the tendency to economize labor rather than land. The war resulted in the withdrawal of large numbers of farmers and farm laborers for military service or to satisfy the demands for war workers; and for about two years after the armistice the higher relative prices of industrial products, as compared with farm products, continued to place a premium on the withdrawal of labor from farming and to stimulate the employment of extensive, rather than intensive, methods of farming.

Some increase in the productiveness of our land per acre may be accomplished by methods which do not increase, but may even reduce, the cost per unit of product; but it is also possible to increase the productivity per acre largely by increasing the cost per unit of product. The experience of nations has shown that sooner or later the increasing pressure of population forces the employment of the latter class of methods.

Among the most important means of increasing the yields of crops are: (1) The selection of crops better adapted to the available soils; (2) the employment of suitable rotations; (3) the use of better adapted varieties; (4) the reduction or elimination of losses from the depredations of insects and diseases; (5) control of weeds; (6) better or more thorough methods of preparing the land and cultivating the crop; (7) larger or more effective use of fertilizers; and (8) the substitution of crops which give a larger yield per acre for those which give a smaller yield. The first four of these methods may not greatly

increase acre costs, but considerable additional expense is likely to be incurred in weed control, the use of better methods of cultivation, and the increased use of fertilizers.

By the application of these methods what is the outlook for the increase of yield per acre under the influence of increasing pressure of population? There are certain optimists who are fond of taking the results of some striking instances of large yields per acre achieved on a small acreage under highly favorable conditions in perhaps a single year and frequently with little regard to cost as a basis for calculating the total future productivity of the nation. The very statement of the conditions indicates the dangers of this method. It is clearly better to give a great deal of weight to the average results obtained over wide areas by countries which have been compelled by pressure of population to employ intensive methods of cultivation

AVERAGE YIELDS PER ACRE, 1909–13, OF SEVEN IMPORTANT CROPS IN FOUR EUROPEAN COUNTRIES EXPRESSED IN PERCENTAGE OF AVERAGE YIELDS IN THE UNITED STATES.

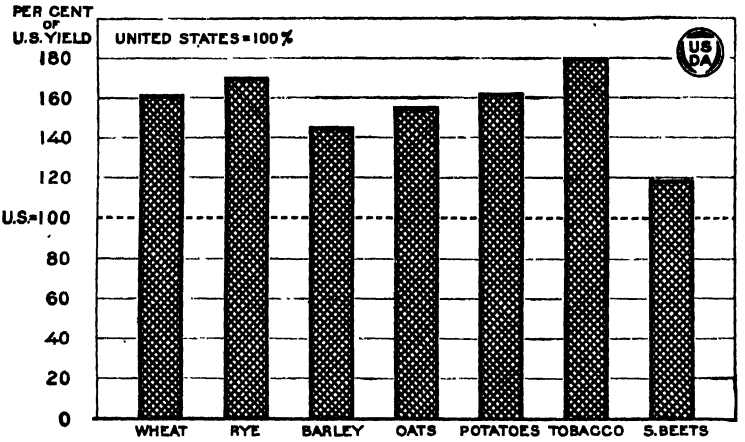


FIG. 46.—The average yield per acre for the four European countries—United Kingdom, France, Germany, and Belgium—is higher than that for the United States in the case of each of the seven crops. The combined average yield for all seven crops, weighted in each case by the relative importance as shown by acreage, is a little over 41 per cent higher for the European countries than for the United States.

and which have employed those methods intelligently and in the light of scientific experimentation, but at the same time with due regard to costs of production. This does not mean that in countries such as Germany and Great Britain, for instance, every farmer is conducting his agricultural operations in the most intelligent and scientific manner. The point is that this is not to be expected. The actual level of practice in any country, no matter how well developed the educational machinery, is certain to be far behind the ideal.

The comparative yields per acre of certain European countries (Germany, France, Belgium, Great Britain, and Ireland) and of the United States are shown in Table 3 and Figure 46.

TABLE 3.—*Average yield per acre of various crops in certain countries, as compared with the yield per acre in the United States, 1909–13.*[1]

Crop.	Yields per acre.						
	Germany.	France.	Great Britain and Ireland.	Belgium.	Average weighted by crop acreage.	United States.	Superiority in yield.
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Per cent.*
Wheat	31.8	19.6	31.7	37.6	23.5	14.6	61.22
Rye	29.0	16.6	30.1	35.2	26.6	15.6	70.40
Barley	38.5	25.8	35.3	51.1	34.7	24.0	44.96
Oats	54.9	36.2	50.7	66.1	47.4	30.4	55.96
Potatoes	203.7	127.4	216.2	277.2	157.2	97.0	62.12
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	
Tobacco	1,713.0	1,231.2	936.8	2,034.2	1,481.0	820.8	80.43
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	
Sugar beets	12.6	10.7	----	12.3	12.0	10.1	19.28

[1] From Annuaire International De Statistique Agricole (Rome, 1922).

The last column of the above table shows the percentage by which the average yield per acre in the four countries of Europe exceeds that of the United States.[38] If France were excluded the percentages of comparison, as indicating the possibility of expanding our production per acre, would be much greater. It is believed, however, that the inclusion of France gives a figure which represents much more accurately a measure of the possibility of enlarging our production per acre than if the other three countries alone were considered.[39]

Two of our most important crops, corn and cotton, as well as a number of minor crops, are not extensively produced in all of the above countries. Likewise, statistics for hay have not been obtained for all these countries.

Satisfactory statistics for hay production are available for the United Kingdom.[40] The average yield per acre of hay in the United Kingdom for the 5-year period 1909–13 was 1.63 tons. For the same period, the average yield per acre in the United States was 1.34 tons, indicating a higher yield for the United Kingdom of 21.6 per cent. In view of the fact that the climate of the United Kingdom is comparatively favorable for hay production and that special attention has been given to the scientific improvement of the meadows, including a considerable use of fertilizers, it is doubtful if we could safely count on a larger percentage of increase in the American yield per acre.

[38] The productivity per acre of each country is weighted by the average annual acreage for the particular crop during the five years 1909–13, inclusive.

[39] It may be doubted if we could hope to attain so high an average product per acre as obtains in Great Britain, Germany, and Belgium, for a large part of our small-grain crops is produced under semiarid conditions. Some of the European countries, notably Great Britain, Belgium, and Germany, import large quantities of concentrates, which are fed to livestock, and the manure applied to field crops. Moreover, it is wise to allow for the inertia which may retard the general adoption of the most approved agricultural methods in so large a country as our own.

[40] The statistics comprise separate figures for production of clovers, sainfoin, etc., on the one hand, and for hay cut from permanent meadows on the other hand. However, the averages per acre for the two classes are not greatly different, and may be safely combined as a basis of comparison with our own statistics.

With corn, it is difficult to make satisfactory comparisons. There is no extensive area of corn in the more progressive countries of western Europe. Indeed, our production is nearly two-thirds of the production for the entire world, and our average yield per acre is greater than the average yield of the world. In only a few countries is the yield per acre in the United States surpassed, and in a number of these the area involved is so small that it can scarcely be regarded as a fair basis of comparison. Although southeastern Europe is the most important corn-producing section of the world, after the United States, Hungary is the only country in that region with a considerable area in corn which shows a larger yield per acre than that of the United States. Our yield per acre is exceeded by about 40 per cent on considerable areas in Peru and Egypt, but in these countries the crop is mostly irrigated. It is most significant that on about 310,000 acres (mainly in southern Ontario) the Canadians have achieved an average approximately double our own average. It would be a mistake, however, to assume that even if similar methods of production were employed throughout the United States they would produce so high an average, for, corn is raised on large areas of light sandy soils in the Southern States and in other regions, and also under semiarid conditions in considerable areas of the Great Plains. New England, where the climate is not best adapted to corn, shows a 10-year average product ranging from 41 to 47.5 bushels per acre for the various States, as compared with a national average of 26.4 bushels and only 37.3 bushels for Iowa. As in Canada, of course, the product in New England is on a comparatively small acreage. However, Pennsylvania, on an area more than four times that employed for corn in Canada maintained an average of 41.7 bushels.

In view of these facts and considering the great area and diverse physical as well as social conditions involved in corn production in America, it may be doubted whether we shall be able to increase our corn yield per acre above 50 per cent.

In considering cotton we encounter somewhat the same difficulty as with corn, namely, the lack of an adequate basis of comparison. India, which after the United States is the most important cotton-producing country, is characterized by comparatively crude methods of production as well as inadequate rainfall in the regions of cotton production, so that the average product per acre is less than half that of the United States. Egypt, the next largest producer, maintains an average yield of 348 pounds per acre, more than double our average product, but the Egyptian industry is confined almost entirely to irrigated alluvial land of high quality. Brazil maintains an average yield of 258.7 pounds per acre—52.6 per cent above our average. However, the conditions of soil, climate, and types of cotton are all different from those prevailing in America.

As a result of the boll weevil, our average yield per acre for the five years 1918–22 was 22 per cent lower than the average yield for the five years 1888–92. In other words, if we should return to the average acre yield of the former period, we should increase our yield about 28 per cent above the average of 1918–22. This may be regarded as measuring roughly the probable improvement in productivity that might be achieved if we should be so fortunate

as to discover a means of completely eliminating losses due to the boll weevil.

In the absence of a comparative basis for estimating the probable increase in production per acre, and with due regard for the physical and social conditions prevailing in the Cotton Belt and for the fact that on large areas of the poorer land artificial fertilizers are already extensively employed, a further increase of more than 35 per cent would appear doubtful.

We have reached conclusions with respect to the probable increase for 10 important crops, which occupy nearly 90 per cent of our entire crop area. If we weight the percentages by the average area in each of the respective crops for the 5-year period 1909–13, we obtain an average percentage of 46.8, which we may regard as representing the practicable increase in production per unit of crop area when economic conditions shall justify the requisite cost of production.[41]

If this increase in yield of crop land could be achieved by the time our population reaches 150,000,000, we should require for domestic consumption only 269,662,000 acres, about 34,000,000 acres less than we used for domestic consumption in 1920.[42]

This would be a somewhat roseate outlook if it were probable that so large an increase would be made in less than three decades; but when we remember that there has been no increase in average yield per crop acre in the past two decades, so large an increase seems highly improbable. Furthermore, even if it could be attained, it would probably involve a considerable increase in expense per unit of product.

Pasture Land.

The comparison of carrying capacity of pasture in the United States with that of western Europe is beset with great difficulties, for the statistical classifications of pasture land in the various countries differ considerably. The United States is very different from western Europe, by reason of the fact that we employ so large an area of arid and semiarid land for pasturage. Spain is the only country in western Europe which even approaches the United States in this characteristic. It will be better, then, to reserve arid grazing land for separate consideration.

The areas in different classes of pasture and the ratio of livestock units to the total area of pasture are shown for various European countries in Table 4 and Figure 47.

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[41] This involves the assumption, of course, that the remaining 10 per cent or more of crop acreage may be made to show an average per cent of increase in yield equal to that estimated for the 10 crops considered.

[42] The method of estimate was as follows: The acreage now required for domestic consumption was divided into two parts: (1) The acreage used to maintain horses and (2) the acreage employed for other domestic uses. The ratio of the one quantity to the other was determined. The area required for uses other than the maintenance of horses was increased by the ratio of 150,000,000 to the population in 1920, and the resulting quantity was then divided by the ratio of crop acreage required at present for uses other than for the maintenance of horses to the area required for horses. This quotient was then divided by 1.468, in order to allow for increase of yield, and the area required for other crop uses was also divided by 1.468. The two quotients were added to give the estimated crop acreage.

TABLE 4.—*Areas of land employed for pasture and the production of fodder crops and number of acres of pasture per animal unit in various European countries.*[1]

	Natural meadows and pasture land.	Marsh, heath, and uncultivated productive land.	Land sown with grass and other forage crops.	Bare, fallow green manure crops and fields under natural grass.	Total, all classes of pasture.	All classes of pasture per animal unit.[2]
	Thousands of acres.	*Thousands of acres.*	*Thousands of acres.*	*Thousands of acres.*	*Thousands of acres.*	*Acres.*
Germany (1913)	21,211	4,893	8,938	3,642	38,684	1.24
Belgium (1910)	1,280	267	633	22	2,202	0.91
France (1910)	24,866	8,177	12,679	(3)	45,722	2.06
Great Britain and Ireland (1911)	[4] 44,324	(5)	5,837	329	50,490	2.65
Denmark (1912)	761	1,085	2,466	502	4,814	1.46
Netherlands (1911)	2,997	1,268	227	12	4,504	1.60
Total	95,439	15,690	30,780	4,507	146,416	1.81

[1] International Yearbook of Agricultural Statistics, Rome, 1921.

[2] The number of animal units is calculated by the usual method. The livestock statistics from which the animal units are calculated are averages for the three years 1911–13, inclusive, for all the European countries with the following exceptions: All German figures are an average for 1912 and 1913, except that for asses and mules statistics for 1912 only are available; all statistics for the Netherlands are averages for 1910 and 1913; for Denmark the statistics for horses, cattle, sheep, and goats are for 1909, and the statistics of hogs are an average of 1909 and 1914. For Belgium the statistics of sheep and goats are for 1910.

[3] No statistics available or number insignificant.

[4] Includes marsh, heath, and uncultivated productive land.

[5] Included under natural meadows and pastures.

AREA OF HUMID PASTURE (OTHER THAN WOODLAND) PER ANIMAL UNIT, UNITED STATES AND VARIOUS EUROPEAN COUNTRIES.

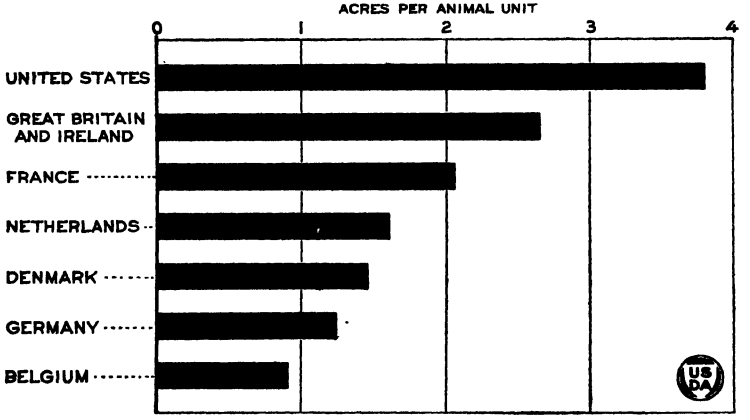

FIG. 47.—The areas of humid pasture per animal unit range from less than 1 acre for Belgium to nearly 4 acres for the United States. However, these differences are not wholly due to differences in carrying capacity, but, to a large extent, reflect differences in the degree of dependence on pasture, as contrasted with other kinds of feed, in the livestock husbandry of the several countries. In calculating the ratios the estimated number of livestock maintained on semiarid pasture and woodland pasture in the United States was excluded, and in all the countries the area of woodland pasture was excluded. To a small extent this makes the comparison unfair to the United States, for the number of livestock carried on woodland pasture in the European countries is not excluded from the calculation. However, because of intensive methods of forestry, the proportion of livestock maintained by woodland pasture in European countries is believed to be very small.

In the six European countries the average number of acres per animal unit is 1.81. On the basis of the estimated acreage of humid pasture in the United States and of the estimated number of animal units in the humid as distinguished from the semiarid parts of the country, there are 4.22 acres of humid pasture per animal unit. This appears to indicate that we employ 133 per cent more acres of humid pasture per animal unit than the average of the six European countries.

The following is a summary of the percentages by which the acres of humid pasture per animal unit for the United States exceed the corresponding ratio for each of the six European countries:

	Per cent.		Per cent.
Great Britain and Ireland	59	Denmark	189
France	105	Germany	240
Netherlands	184	Belgium	364

It will be clear that these differences do not measure differences in carrying capacity of pasture. The pastures of Great Britain and Ireland are probably not greatly inferior in carrying capacity to the pastures of the other countries shown in the table. The differences reflect largely variations in degree of dependence on pasture.

Further light is thrown on the problem by studying comparative figures on carrying capacity for the various kinds of pasture. Through the courtesy of the Prussian Ministry of Agriculture the estimates of the carrying capacity of German pastures, shown in the left-hand side of Table 5, are made available, based on the works of Professor Falke, a high authority on animal husbandry. In the right-hand side of the table are parallel estimates supplied by Professor Hansen, of the Berlin Agricultural High School, a recognized authority on pasture economy.

TABLE 5.—*Estimated average carrying capacity of German pastures.*

Professor Falke's estimate.	Kind of stock and ages.	Professor Hansen's estimate.
Number per acre.		*Number per acre.*
2.04–3.33	Cattle of ½ to 1 year	1.61–2.70
1.35–2.04	Cattle of 1 to 2 years	1.16–1.61
1.16–1.61	Cattle of 2 to 3 years	0.90–1.35
0.81–1.61	Cows	0.68–1.00
1.35–1.62	Horses of 1 year	1.16–1.35
0.90–1.16	Horses of 1 to 2 years	0.81–1.00
0.81–1.01	Horses of 2 to 3 years	0.68–0.90

In commenting on these figures, officials of the German Ministry of Agriculture expressed the opinion that Professor Falke's figures apply to permanent pastures located in Schleswig-Holstein, East Friesland, Mecklenburg, Pomerania, and East Prussia, as well as to the better pastures in the mountains of Bavaria. Most of these pastures receive some care, and fertilizer is extensively used. On the other hand, most of the mountain pastures do not have so high a carrying capacity. These officials believed Professor Hansen's estimates more nearly represent averages of carrying capacity for all German pastures.

As a result of the study of about 10,000 questionnaires concerning the carrying capacity of humid grassland pasture in the United States, the conclusion has been reached that the average carrying capacity for the usual grazing season (averaging about 6 months) is 2.3 acres per animal unit, or about 0.45 animal units per acre. This excludes woodland and also brush lands and rocky mountain tops. It is true, we have pasture land with a considerably higher carrying capacity. Here and there a township may be found where pasture will carry as much as an animal unit per acre. However, in the American States reporting the highest carrying capacity, the average is but little more than half of an animal unit per acre—that is, less than half the average for all Germany.

According to Professor Hansen's estimate, the average carrying capacity for mature horses and cows ranges from 0.85 to 1.17 animal units per acre. The mean of Professor Hansen's estimates is practically 1 acre per animal unit. On this basis, the carrying capacity of German pastures is about 122 per cent greater than the estimated average carrying capacity for the humid grassland pastures of the United States. Apparently, if we may take Germany as an indication, the superiority of European pasture in productivity as compared with that of the United States is strikingly greater than in the case of crop land.

Data for determining the amount of possible increase in the grazing capacity of our semiarid pasture lands are not yet available. Experiments have been conducted, such as those at the Jornada Range Reserve in New Mexico, where on 200,000 acres an increase of 50 per cent in carrying capacity was effected by a 5-year period of management,[43] and an average increase of 100 per cent in production for each animal unit carried resulted during an 8-year period.[44] Another experiment carried on in southern Arizona resulted in an increased carrying capacity of 100 per cent from five years' management.[45] However, the above were obtained under experimental conditions which are not likely to conform to the broad average of practice. On a much larger scale the experience accumulated on 100,000,000 acres of national forest ranges of the West indicates a general improvement of 25 to 30 per cent through controlled grazing. Of course, these lands are partly humid or subhumid. Nevertheless, it is probable that this experience reflects the possible increase in productivity that might shortly be attained by substituting regulated grazing for the present promiscuous use of open range. It is probable that the productivity of the national forest ranges could be increased another 25 per cent in course of time through the employment of a higher grade of livestock, better care, closer coordination of range forage and other feed, and the further extension of improved principles of range management, such as proper time and intensity of use or "deferred and rotation grazing." On the public grazing lands not now subject to regulation, a conservative estimate of increased productiveness through regulation is 50 per cent. On

[43] See Bulletin 588, United States Department of Agriculture, by J. T. Jardine and L. C. Hurtt—"Increased Cattle Production in Southwestern Ranges."
[44] Computed from unpublished reports in Forest Service.
[45] United States Department of Agriculture Bulletin 367, by E. O. Wooton—"Carrying Capacity of Grazing Ranges in Southern Arizona."

privately owned range lands, it is probable that the potential increase in productivity is much less. Experience has shown that it is a slow process to bring up the average of individual practice. Probably it is not wise to count on an increase of more than 25 to 30 per cent in productivity on the semiarid range pastures not in public ownership.

It is doubtful if the future will see a considerable increase in the carrying capacity of the area of forest and woodland pasture. More than a fourth of it is in national forests already grazed under careful regulation. The remaining area consists largely of cut-over land or second-growth timber. The development of timber-growing in these areas will increase the density of timber stands and reduce the amount of forage, and in many cases may lead to the reduction or exclusion of livestock. Even in the national forests the protection and encouragement of young growth have necessitated the exclusion of livestock in some areas.

The above estimates of possible increase in carrying capacity of pasture are not intended to suggest that we shall actually achieve so high a standard of pasture management in the next three or four decades, for this is highly improbable; but it may be worth while to calculate the area of humid grassland pasture that would be needed for a population of 150,000,000 on the assumption of an increase of 122 per cent increased carrying capacity on humid pastures other than woodland, and 50 per cent on semiarid pastures. This will give at least a conception of the minimum area that would be needed to maintain present standards of consumption. Allowing for these increases and assuming the areas of semiarid and woodland pasture to remain constant (as explained above), approximately only 120,700,000 acres of humid grassland pasture would be required for a population of 150,000,000, as compared with 209,000,000 acres of this type of pasture now employed for domestic consumption. Actually, of course, for a population of 150,000,000 we shall need an area between this minimum of 120,700,000 and a maximum of 336,000,000 acres in order to maintain the present standards of consumption of livestock products.[46]

Forests.

At the present time a large part of the 483,000,000 acres classed as forest and cut-over land is not growing timber. On the 138,000,000 acres of virgin timber it is estimated that annual growth is about balanced by the loss from death and decay; these forests have reached, roughly speaking, a natural balance. About 81,000,000

[46] The above estimate was made as follows: The number of animal units other than work stock required for a population of 150,000,000 people was calculated. The number of horse animal units was estimated as follows: The fraction of a horse animal unit per acre of crop land at present was determined. This requirement was increased by 40 per cent (see p. 478) and the resulting horse requirement per acre was multiplied by the crop acreage required for 150,000,000 people under the assumption of an increase of 46.8 per cent in productivity, as previously estimated. The required number of horse units was then added to the number of other animal units. The estimated number of animal units carried on semiarid pasture, increased by 50 per cent, was added to the estimated number maintained on woodland pasture. The sum was subtracted from the required number of animal units. The percentage of the remainder to the number now maintained on humid pasture other than woodland was then ascertained, and the present acreage of humid pasture other than woodland was multiplied by this percentage.

acres are not restocking because of fire or other causes. On the 264,000,000 acres of growing timber the annual rate of growth is estimated at only 24 cubic feet per annum, a rate only about half that which prevails in well-cared-for forests of certain European countries (fig. 48). As a consequence, the annual growth amounts

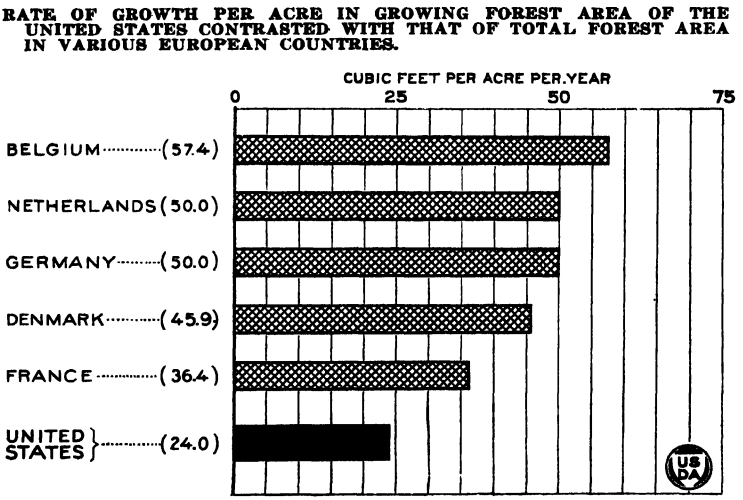

FIG. 48.—The rate of growth of growing forests in the United States is less than half that of Belgium, the Netherlands, and Germany. The rate of growth for the United States is calculated only on the basis of the 264,000,000 acres of actually growing forest, omitting the area of virgin forests and the denuded areas not restocking. On the other hand, for the European countries the total estimated growth is divided by the total forest area, including small areas of denuded land not yet reforested. However, this does not seriously reduce the rates.

to only about one-fourth of the present annual consumption. Our present annual consumption and wastage of forest products is 24,785,000,000 cubic feet per annum. However, of this 2,380,000,000 cubic feet represents estimated loss from fire, insects, diseases, and windfall (fig. 55). Assuming that in the next few decades we shall be able to eliminate this wastage, we should require for a population of 150,000,000 people an annual cut of 31,793,000,000 cubic feet per annum to maintain the present rate of consumption. If we should manage to increase the rate of growth per acre to that which prevails, say, in Germany or the Netherlands, that is, to 50 cubic feet, we should require 636,000,000 acres of growing forest or 32 per cent more than our present forest area including the area denuded and not restocking.

The maintenance of so high a standard of productivity will involve, of course, the intensive application of labor, not only in the careful harvesting of mature timber so as to insure natural reproduction, but also in protecting, thinning, and other cultural operations in the new forest throughout its life. In these respects the cultivated forest of the future will be as different from the wild, volunteer forests of to-day as farm land is from wild land. Protection from fire and reliance chiefly on chance reproduction or on a few seed trees in the more difficult types will not assure this high

productivity; in fact, it is estimated that such measures would increase the annual growth per acre of growing forest from only about 24 to 29 cubic feet.

Owing to the fact that a large part of our forest is in private ownership, we can not expect a rapid development of the most intensive forestry in a short time. The existence of our still large reserve of virgin timber retards the economic forces that would otherwise more rapidly lead to profitable timber growing. In addition, there is much conservatism, traditional apathy, and inertia to prevent as rapid an increase in timber growing as we need. Unquestionably economic forces are being stimulated and traditional obstacles removed by the widespread awakening to the danger of future timber shortage. However, intensive forestry of the European type can not be developed rapidly enough, especially in our privately owned forest lands, during the next few decades to offset this shortage. Even in the lands publicly owned the huge problems involved in fire protection, in administration, and in marketing the less accessible timber retard the development of the most intensive methods of forestry.

Conditions of Increased Productivity Per Unit of Land Employed.

It has already been suggested that the experience of older countries has shown that the increased productiveness per acre required to maintain a dense population is obtained at a greater cost, partic-

NUMBER OF PERSONS EMPLOYED IN AGRICULTURE PER THOUSAND ACRES OF CROP LAND (EXCLUDING WILD HAY), SELECTED EUROPEAN COUNTRIES AND STATES OF THE UNITED STATES.

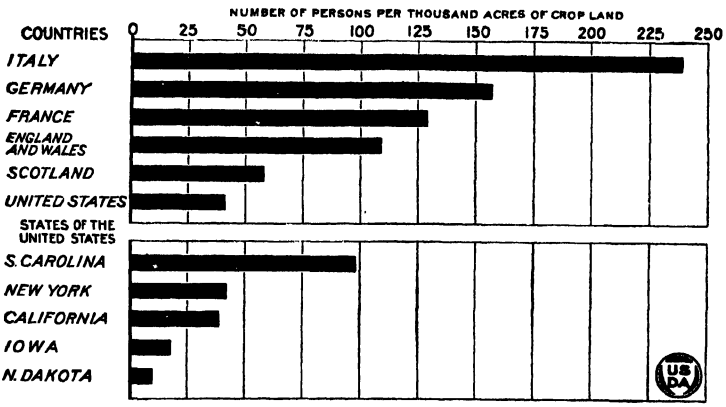

FIG. 49.—The larger yields per acre characteristic of European nations involve a heavy cost in human labor. To some extent the contrasts reflect differences in the character of the crops. Thus the large relative amount of labor in Italy is partly due to the prevalence of such intensive crops as silk, wine, olives, citrus fruits, etc., and in South Carolina to the predominance of such intensive crops as cotton and tobacco. In part, it is due to the smaller number of horses and other work stock per thousand acres in the continental countries, as compared with Great Britain and the United States. In part, also the farm population in the continental countries is employed in domestic industries as well as in farming. However, after all these allowances are made, it is still true that the European nations employ much more labor per thousand acres of crops than is found economical in the United States. For the United States the data are from the census of 1920. For the European countries the latest official statistics were employed.

ularly of labor, not only per unit of land but also per unit of product. It is true, we may effect some increase by a more widespread adoption of improved methods of increasing the productiveness of land without correspondingly increased expense. Furthermore, our progress in saving labor by development of new mechanical devices would offset somewhat the increase in costs involved in more intensive farming; and there is always the possibility of some epoch-making discovery that will revolutionize the possibility of increasing product per acre without proportionately increasing costs.

In spite of these possibilities, it is foolish to underestimate the significance of the fact that the superiority of the agriculture of western Europe in productivity per unit of land, as compared with the United States, is attained by a considerably greater expenditure of labor (fig. 49). As compared with a population engaged in

NUMBER OF WORK ANIMALS PER THOUSAND ACRES OF CROP LAND (EXCLUDING WILD HAY), THE UNITED STATES, SELECTED EUROPEAN COUNTRIES, AND STATES OF THE UNITED STATES.

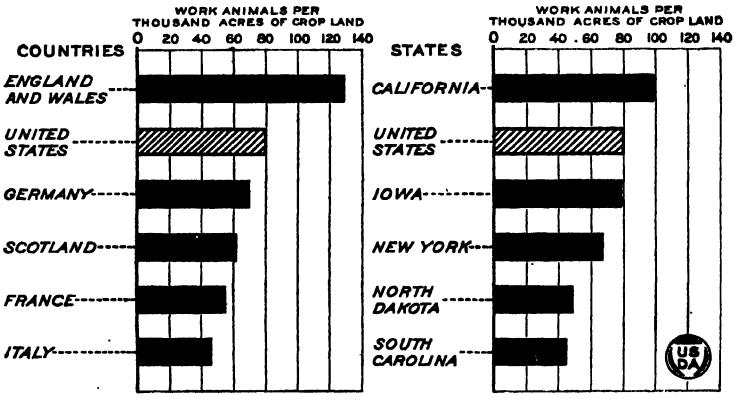

FIG. 50.—While the United States uses more work animals per thousand acres of crop land than the European countries, except England and Wales, the percentages by the United States exceeds the respective countries in this regard are not as large as the percentages by which they exceed the United States in the quantity of labor per thousand acres of crop land (see fig. 49). The number of work stock per thousand acres of crop land in England and Wales is larger than for the United States, but the ratio of work stock to persons engaged in agriculture is smaller. The figures for the United States are based on the census of 1920. For the European countries the latest official statistics were employed.

agriculture, in the United States averaging 41 per thousand acres of crop land, there are nearly 6 times as many in Italy, nearly 4 times as many in Germany, over 3 times as many in France, and more than 2½ times as many in England and Wales in spite of the prevalence of a pasture economy in the last-mentioned country.

Of course, our agriculture is relatively more intensive than a mere comparison of proportions of persons per thousand acres of crop land would seem to indicate; for, in place of some of the persons directly engaged in farming in Europe, we employ some persons in our cities in making a greater quantity of machinery and implements per thousand acres of crop land than are used in European countries. Furthermore, we use a greater number of horses and mules per thousand acres of crop land than are employed in most European countries (fig. 50).

Not only is the superiority of western European countries in yield per acre achieved at the expense of a greater quantity of man labor per acre; but the evidence indicates that the extra expenditure is proportionately much greater than the increase of yield, so that the yield per unit of labor is much smaller than in the United States. Let us take for comparison the four countries—the United Kingdom, Germany, Belgium, and France. Their average product per acre for seven important crops was found to be about 41 per cent greater than for the United States. However, their agriculturally employed population per thousand acres of crop land was 278 per cent greater than for the United States.[47] It is true, they used slightly fewer work horses and mules per thousand acres of crop land than in this country (78 as compared with 80), but this slight difference is almost certainly made up by the proportionately greater use in the European countries of supplementary work animals such as oxen and dogs. Moreover, it is probable that the expenditure for fertilizer per acre is much greater than in the United States.

It may be unfair, therefore, to compare the productivity of the seven crops per unit of human labor in these four countries with that of the United States. On this basis it appears that whereas the yield per acre for the four European countries was 41 per cent greater than for the United States, the yield per person directly employed in agriculture was 159 per cent greater for the United States than for the four European countries.[48]

It does not necessarily follow that in order to increase our average yield per acre 41 per cent, we shall have to increase our number of laborers from 41 per thousand acres of crop land to 155 per thousand acres, or 278 per cent. Our agriculture is organized on the basis of a large number of work stock in proportion to human labor. Thus, in America there are approximately two horses or mules to one agricultural worker. On the other hand, in the four European countries there are two workers to each horse or mule. In short, our present ratio of horse labor to human labor is about four times that prevailing in the four European countries.

This contrast partly grows out of our system of farm organization. Of the four European countries, all but the United Kingdom are characterized by large numbers of small peasant farms which employ horse labor very sparingly.

Our own farm organization is more similar to that of England, involving larger units than prevail on the continent. It will be noted

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[47] This is on the basis of the United States census for 1920, which was taken as of January 1, and which showed fewer persons engaged in agriculture by about 1,500,000 than were reported in the 1910 census, which was taken as of April 15. It is believed that the difference in date of enumeration is partly responsible for the smaller number shown for 1920.

[48] It should be recognized that the statistical comparison is a very rough one and should be regarded only as suggestive rather than an exact measure of the differences involved. In the first place, occupational statistics are very inaccurate because the time of year in taking the census makes a considerable difference. Moreover, the proportions of casual labor and of woman and child labor vary considerably in the different countries. Again, the production figures are for only seven principal crops. America produces at least two important crops not grown in the four European countries; and some of these countries in turn lay a greater emphasis on small fruits and vineyard, truck, and other intensive products than is the case in the United States. In some of the European countries a good deal of the time of the agricultural population is employed in by-industries, such as domestic manufactures, or in making things for themselves or performing services for which American farmers have to pay. Finally, it must be recognized that no account has been taken of the relative amounts of labor employed in producing and caring for livestock.

that in England and Wales the ratio of horses to laborers is as 118 to 100. When we have reached the probable extreme of intensity of cultivation our figures both for man labor and for horse labor per acre of crops are likely to resemble more closely the English than the continental ratios. Even this would mean increasing man labor per acre 215 per cent and horse labor 61 per cent.

It is probable that with our aptitude for mechanical devices we shall increase our man labor in somewhat less extent and employ a somewhat greater proportion of horse labor or its equivalent in other forms of power. It is also probable that progress in science and invention will result in more efficient methods of production; but this is not predictable and, indeed, is an immeasurable factor and one that should not be too greatly relied on in making our plans for the future.

It might be said that part of the present superiority of America in productiveness per man is due to superiority in intelligence and skill of our population and that this will make it unnecessary to pay so heavy a price for increased yield per acre as the European countries have paid. However, we have no more right to assume that all or any part of our superiority in production per man is due to our superior efficiency, than the people of the above-named countries have to assume that their superiority in productiveness per acre is due to the same cause. The fact is that a high degree of skill in America is directed to the economy of labor, while in western Europe probably equally as much skill and intelligence are devoted to the problem of economizing land.

The facts point to the conclusion that after a certain average of productivity per acre is attained, probably somewhat higher than that now prevailing in this country, a marked increase in average product per acre is attained only by a much greater expenditure of labor. This may explain why our farmers in the past two decades have made so little progress in production per acre.

The above facts also point strongly to the conclusion that unless the future shall result in exceptional progress in scientific invention and discovery, making possible a larger yield per acre without the corresponding penalties in increased costs now required, we may need to increase considerably the proportion of our population engaged in agriculture; but this change is hardly likely to begin to be manifest during the next few decades.

It is also safe to count on a considerable increase in the number of work animals either made necessary by expansion of crop area or greater intensity of cultivation on old lands. Judging from the experience of the United Kingdom an increase of at least 40 per cent in number of horses per thousand acres would be necessary in order to effect an increase of 47 per cent in yield per acre.[46]

[46] Even as compared with English requirements the assumption of an increase of 40 per cent in number of horses and mules appears a conservative one and makes considerable allowance for the substitution of tractors and other forms of mechanical power. It is difficult to allow for this factor. Some would make greater allowance for the future displacement of horses by these means. Apparently, thus far, there has been some progress in this regard. During the past decade the number of horses and mules per thousand acres of cultivated land decreased from 75 to 69. On the other hand, such studies as have been made indicate that the tractor does not displace more than 15 to 20 per cent of the horses on the average farm outside of the wheat regions. Moreover, there are probably large areas of the country where topographic conditions do not favor the introduction of tractors.

Economies in Acreage Requirements That Might be Effected by Certain Changes in Our National Standards of Consumption.

In the following estimates of the economy in acreage resulting from changes in standards of consumption, the present yields per acre have been assumed, so as not to confuse for the moment the effects of changes in productivity. Later, the possible economies in land area resulting from both causes may be considered in conjunction.

Crop and Pasture Land.

Since livestock require so large a part of our total farm acreage, it is natural to look to this phase of our consumption as affording the principal opportunity for economy—a fact that has been demonstrated by the experience of more densely populated countries.

The food scarcities of the war period resulted in very careful estimates of per-capita consumption for two countries, the United Kingdom and Germany, which give us a basis of consideration of the problem.

In Table 6 is given the per capita consumption for the United Kingdom and the United States of food products from livestock.[50]

TABLE 6.—*Per capita consumption of food products from livestock, the United Kingdom and the United States.*[1]

Products.	United Kingdom (pounds per capita).	United States (pounds per capita).	Per cent the British is of the American.
Beef and veal	64.0	68.36	93.6
Mutton and lamb	29.1	5.34	544.9
Pork, bacon, ham and lard	41.6	83.80	49.6
Poultry (and game)	2.7	[2] 20.20	13.4
Eggs	12.5	28.30	44.2
Milk (including cream and condensed milk)	246.4	418.80	58.8
Butter	15.6	15.23	102.4
Cheese	7.2	3.45	208.7
All dairy products in terms of milk for human consumption	646.0	773.13	83.6
Fish	41.4	17.00	243.5

[1] The figures for beef and veal, mutton and lamb, and pork do not correspond exactly to the statistics gathered by the Bureau of Crop Estimates in an attempt to obtain from crop correspondents the consumption of these products by sections. See Yearbook 1920, p. 828.

[2] Game is not included in the United States figure.

From the standpoint of nutrition, of course, it is necessary to consider the entire diet of a people—vegetable products and fruits, as well as meats. Taking into consideration all its elements, the committee above referred to estimated the British food supply, as represented by the average for 1909–13, to be somewhat above the minimum necessary to maintain the population in an efficient working condition. The actual supply consumed was estimated to be in

[50] The data for United Kingdom are derived from the report of "A Committee of the Royal Society at the Request of the President of the Board of Trade." London, H. M. Stationery Office, 1917, and comprise the average annual consumption for the years 1909–13. The American figures comprise the average annual consumption for the years 1918–23.

excess of requirements, by 11 to 14 per cent of proteins, 25 to 30 per cent of fats, and 10 to 14 per cent of carbohydrates.

If these conclusions are correct, we should be amply nourished as a nation though not necessarily wisely nourished, if we should adopt the British standard. The most important difference, so far as livestock products are concerned consists in the much greater consumption per capita of mutton in the United Kingdom, offset in the United States by a relatively greater consumption per capita of pork and pork products, poultry, eggs, and dairy products.

For the present investigation the important question is: Would there be an economy in the requirements of crop and pasture land if we employed the British standard of consumption of livestock and livestock products? A careful estimate indicates that, in providing for a population of 150,000,000 people, we should save about 43,000,000 acres of crop land, compared with the requirements under our present standard of consumption.[51]

On the other hand, assuming that the area of semiarid pasture and woodland pasture are constant, as in previous estimates, we should find it necessary to provide about 37,000,000 acres more of humid pasture, other than woodland, than would be required for 150,000,000 people under the American standard.[52]

The apparent anomaly that under the British standard we should economize in crop area but require an increase in pasture area is due to the fact that the largest economies under the British standard are in hogs and poultry, which require relatively large amounts of crop land but relatively small amounts of pasture; while, on the other hand, the British requirement for sheep is 445 per cent above our own, and sheep require comparatively little crop area but large areas of pasture.

As a matter of fact, the British standard is not a normal one for a self-sufficing nation of dense population. It is made possible by the policy of depending largely on foreign sources of supply. A much more normal example of the adjustments in consumption of

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[51] The estimate was made as follows: The acreage required for each class of livestock other than horses for a population of 150,000,000 was calculated, and this was multiplied by the percentage the British per-capita consumption for this class of livestock is of the American per-capita consumption. The sum of the average requirements for the various classes of livestock was then added to the acreage required for other domestic uses under a population of 150,000,000. This total was divided by a factor representing the ratio of acreage required for domestic consumption exclusive of the maintenance of horses to the acreage required for horses. The quotient added to the other acreage previously estimated gives the requirement under the British standard. The American consumption of poultry is relatively very much higher as compared with that of the United Kingdom than it is for eggs. This is partly due to the fact that the United Kingdom imports a large part of its supply of eggs, while the greater part of the American supply is produced at home, with the consequence that the surplus poultry incidental to egg production is consumed at home. It was therefore considered best to take the relative consumption of eggs rather than the relative consumption of poultry as a basis of obtaining the economy in acreage. To determine the proportionate consumption of all dairy products the per-capita consumption of butter and of cheese was reduced to whole milk.

[52] The estimate was made as follows: The number of animal units for each class of livestock required for 150,000,000 people under the American standard of consumption was calculated. This was multiplied by the percentage the British standard of consumption for that particular class of livestock is of the American. The necessary number of horse units was determined by multiplying the horse units that would be required under the American standard of consumption by the ratio of crop acreage required for horses under the British standard to the crop acreage required for the maintenance of horses under the American standard previously estimated. From the total number of animal units that would be required under the British standard thus determined was subtracted the number of animal units now maintained by semiarid pasture and woodland. The ratios of the remainder to the number of animal units now maintained by humid grassland pasture was determined and this ratio multiplied by the acreage of humid grassland pasture now employed for domestic consumption, thus giving the area required under the British standard.

livestock and livestock products is afforded by Germany, for which country fortunately we have carefully prepared statistics.[53]

The pre-war food consumption of the German Empire (1912–13) comprised a much smaller use of meat per capita than that of the United Kingdom, but higher than that of France and other continental countries. Nevertheless, the German people were adequately nourished. It is estimated that the caloric value consumed each day per "average man"[54] was about 15 per cent in excess of the requirement as estimated by the Inter-allied Scientific Food Commission. Allowing for the importation of food, concentrates, and fertilizers, about 85 per cent of the food supply was domestic production and 15 per cent imported.[55]

The contrasts in the food consumption of Germany and of the United States in terms of percentage of total energy units (calories) derived from different kinds of food are shown in Figure 51. Table 7 shows the per-capita consumption of different kinds of food in the two countries measured in pounds, and the percentage of excess and deficiency of the American as compared with the German standard.

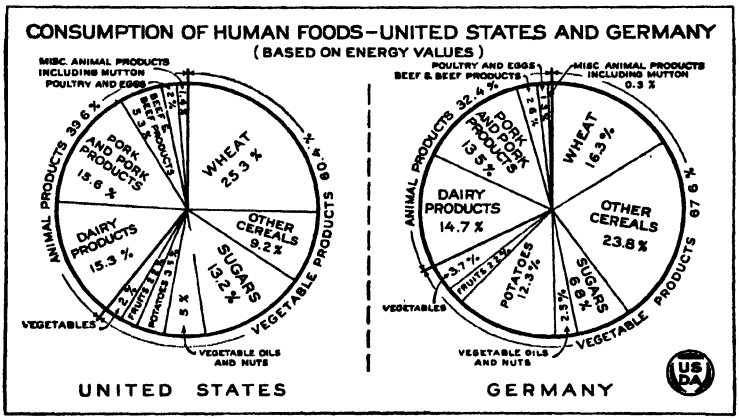

FIG. 51.—The German diet in the years just preceding the World War was ample in nourishment, but represented certain economies made necessary partly by scarcity of land and partly by a lower per capita income as compared with the United States. The combined consumption of cereals and potatoes for Germany comprised a much larger percentage of the total than in United States, although our consumption of wheat was a larger percentage of the total than in Germany. The percentages of energy units obtained from pork and dairy products are not greatly different for the two countries, but beef and sugar have a considerably larger place in the American than in the German diet.

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[53] "Report on Food Conditions in Germany," by Ernest H. Starling, with Memoranda on Agricultural Conditions in Germany, by A. P. McDougall, and on Agricultural Statistics, by G. W. Guillebaud (London, H. M. Stationery Office, 1919). The statistics on food consumption used herein are based on official statistics.

[54] By "average man" is meant a figure in which the women and children, for whom the food requirement is less than for men, are converted into equivalent man units. For the German Empire this was done by multiplying the total population by 80 per cent. After the war, however, as a result of the loss of man power, it was found that the equivalent was 84 per cent (in 1919).

[55] The undoubted undernourishment which resulted from the war is attributed in the above-mentioned report largely to the disorganisation in production and distribution.

TABLE 7.—*Comparative per capita consumption of foodstuffs in Germany and the United States.*

Kind.	Germany.[1]	United States.[2]	Per cent German figure is of American figure.
ANIMAL PRODUCTS.			
	Pounds.	*Pounds.*	
Beef and veal	39.40	68.36	57.6
Pork and pork products (including lard)	75.45	83.80	90.0
Mutton and lamb	2.00	5.34	37.5
Poultry	4.82	20.20	23.9
Eggs	15.99	28.30	56.5
Milk	283.30	418.80	67.6
All dairy products in terms of milk	711.34	773.13	92.0
Butter	15.44	15.23	101.4
Cheese	10.38	3.45	300.9
Fish	19.56	17.00	115.1
VEGETABLE PRODUCTS.			
	Pounds.	*Pounds.*[3]	
Wheat flour	129.92	204.70	63.5
Rye flour	157.82	4.30	3,670.2
Corn meal or flour		58.40	
Rice	7.20	5.40	133.3
Other cereals (oatmeal, barley, buckwheat, etc.)	22.06	6.30	350.2
Total all cereals	317.00	279.10	113.6
Potatoes	407.27	150.10	271.3
Sugars	44.57	95.70	46.6

[1] Derived with minor modifications and adjustments for purposes of comparison from "Report on Food Conditions in Germany" by Ernest H. Starling and others.

[2] Animal products consumed in the United States—Beef and veal, pork and pork products, including lard, mutton and lamb are based on average consumption, 1918 to 1922, inclusive; statistics furnished by John Roberts, United States Department of Agriculture. Statistics on average consumption of dairy products in the United States, 1918 to 1922, inclusive, furnished by T. R. Pirtle, United States Department of Agriculture.

[3] From "The Nation's Food," by Raymond Pearl. Average consumption, 1911–18, inclusive, calculated from tables in Chapter XI.

On the basis of these comparative figures it is estimated that under the German standard of consumption of animal products there would be an economy of about 64,000,000 acres in the amount of crop land that would be required under the present American standard of consumption of animal products. However, the economy in crop land under the German standard of livestock consumption is offset somewhat by the relatively larger requirements of crops employed directly for human consumption. For the crops shown in Table 7 it is estimated that there would be needed for a population of 150,000,000 people about 27,000,000 acres more under the German standard of consumption of vegetable products than under the American standard. Whereas the Germans have a smaller per capita consumption of wheat and sugar and eat practically no maize, this is more than offset by their much larger consumption of potatoes and the other cereals, especially rye.[56] In short, the net saving in crop

[56] In making this estimate allowances were made for seed requirements and for the proportion of the area of the several crops employed in feeding livestock. The economy in sugar consumption is applied only to the acreage of cane and sugar beets in this country, not to the acreage required for the proportion of those crops imported. In calculating the respective acreage requirements for rye the percentage in Table 7 was not employed, because of the tendency to exaggerate unduly possible errors in the small estimate of rye employed for human consumption in the United States. Consequently, it was found best to calculate the rye requirement direct from the statistics of German production and consumption.

acreage under the German standard is about 37,000,000 acres. The greatest saving, however, would be in the case of pasture. It is estimated that under the German standard the requirement of humid pasture other than woodland would be 121,000,000 acres less than under the American standard, owing to the large economies in the use of the pasture-consuming animals—sheep and beef cattle.

Consumption of Forest Products.

As shown by Figure 52, the possibilities of reducing our per-capita consumption of forest products are very great. As between the 234 cubic feet per capita of standing timber annually used or wasted in the United States [57] and the 27 cubic feet of France and Germany, or

ANNUAL PER CAPITA CONSUMPTION OF WOOD, UNITED STATES COMPARED WITH VARIOUS COUNTRIES AND REGIONS.

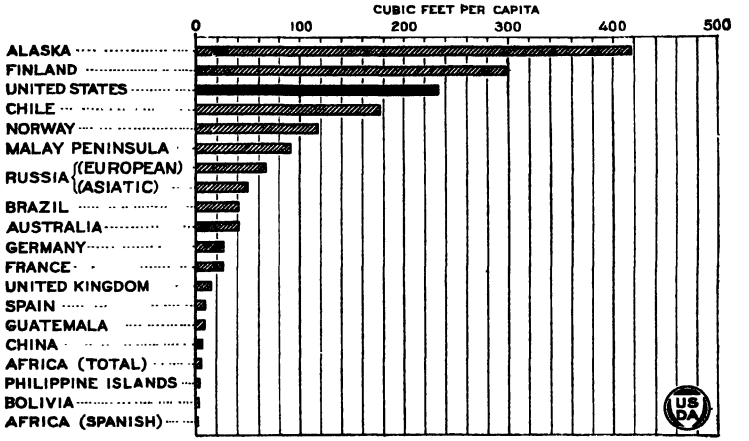

FIG. 52.—The per capita consumption of timber is closely related to the abundance or scarcity of it in the various countries. It is especially large in countries which are still cutting from a stored-up supply, or where so large a proportion of the total area is mountainous that the population is small in proportion to the total land surface, as well as to the total area of forest, as in Norway. The per capita consumption tends to be small in countries of dense population, especially where it is necessary to rely on annual growth, such as Germany and France. It is also small in countries of sparse population but slight industrial development, such as Guatemala, Bolivia, and Spain. In the last two countries another factor is the considerable area of semiarid land, which tends to reduce the proportion of forest to the total area. The figure for the United States includes wastage from fire, while this loss is not included in the consumption figures of the other countries, the loss from this cause being very small for most of them. Because a large part of the supply is imported, the figure for the United Kingdom represents mainly sawed and hewed timber.

the 15 cubic feet of the United Kingdom, there is obviously a great gap which may be considered not absolutely essential to the maintenance of civilization.

However, the mere fact that some of the European nations find it physically possible to get along with from 15 to 27 cubic feet per capita, while we employ 212 no more means that a reduction to the European level is economically desirable than the fact that a certain man of limited income manages to exist on $1,000 makes it desirable

[57] On the basis of the population in 1920.

for a man with an income of $10,000 to reduce his expenditure to the level of the less fortunate individual.

If we were willing to reduce our living standards drastically and to curtail our industrial consumption of wood to the level of Germany or France, the present rate of growth in our growing forests would provide for a population of about 235,000,000 people. If, on the other hand, we cared to use the intensive methods of forestry of Germany and employed only land too rough or too poor for use in crops (see p. 474), we could supply timber for about 485,000,000 people, according to the French or German standards of consumption, or more than we could probably supply with food and clothing under a reasonable standard of comfort. If our entire present forest area were in growing timber, and assuming no change in rate of growth, we could maintain for a population of 150,000,000 a per capita consumption of 76 cubic feet, which is over one-third our present per capita consumption (fig. 53). This is merely another

PERCENTAGES OF PRESENT PER CAPITA CONSUMPTION OF STANDING TIMBER THAT WOULD BE AVAILABLE FOR 150,000,000 PEOPLE BY UTILIZING OUR PRESENT AREA OF FOREST LAND AT VARIOUS RATES OF GROWTH.

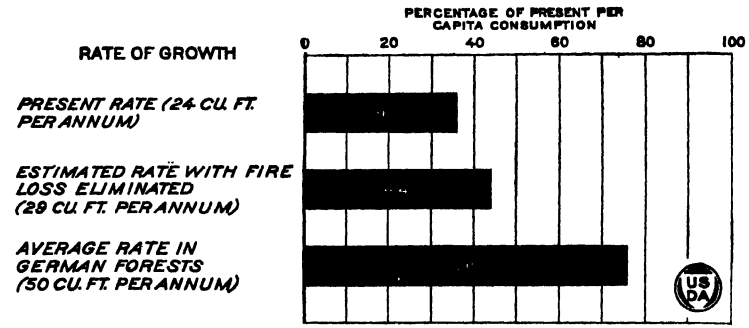

FIG. 53.—On our present forest area, including the 81,000,000 acres denuded and not restocking, it would be possible to provide for 150,000,000 people at present rates of growth on the growing area only a little more than a third of our present per capita consumption. The elimination of fire would increase the supply by about one-fifth. If the average rate of growth for the German forest area could be attained, our present area could supply annually three-fourths of our present per capita consumption. However, this would involve very intensive systems of forestry on an area about fourteen times that of the forests of Germany.

way of saying that so drastic a reduction in per capita consumption is likely to be unnecessary.

Moreover, the reduction in our per capita consumption of forest products to that prevailing in Germany and France would involve costly substitutions, as well as serious deprivations in the standard of living of our population. The people of those countries have been schooled for centuries in the scanty use of wood, whereas in the United States our whole social and economic structure has been based on the use of wood in abundance. Indeed, leaving out of account the present unnecessary wastes, it would appear undesirable to make any reduction in our per capita consumption of timber that is not required by the lack of available land.

It is true, our large per capita consumption can be somewhat reduced with less real than apparent hardship, by eliminating some of the unnecessary wastes and the less important uses. Of our total annual cut of 22½ billion cubic feet of standing timber, only about one-third is sawed lumber, including dimension material and sawed ties (fig. 54). Most of the remainder consists of such items as fuel wood, hewed railroad ties, pulpwood, mine timbers, and similar products. Wood used for fuel alone amounts to nearly two-fifths of our timber cut.

Moreover, in the United States large amounts of such products as fuel wood, mine timbers, pulpwood, and fence posts come from

AVERAGE ANNUAL REMOVAL OF STANDING TIMBER FROM THE FORESTS OF THE UNITED STATES ASSIGNED TO VARIOUS TYPES OF USE OR CAUSES OF DESTRUCTION.

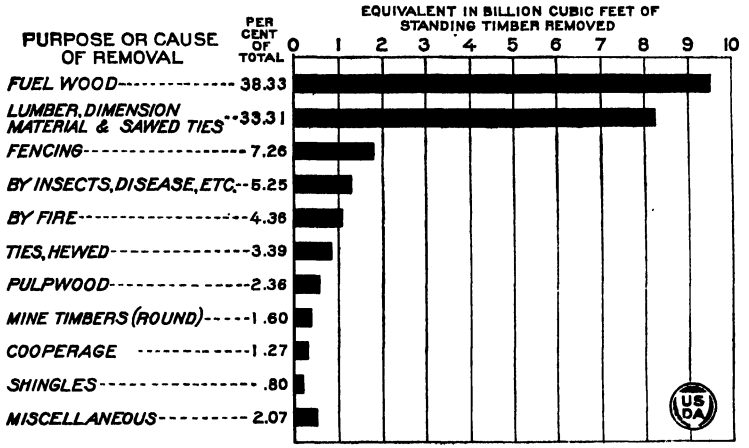

FIG. 54.—Of the total timber annually removed from the forests of the United States a little over 4 per cent is destroyed by fire and a little over 5 per cent by insects and disease. Lumber, dimension material, and sawed ties comprise about one-third of the total, but the timber of saw-timber size removed for various purposes amounts to more than half of the timber annually removed. About two-fifths of the total is employed for fuel. Pulp wood, though economically of great importance, represents only a little over 2 per cent of the timber annually removed. As indicated in Figure 55, nearly half of the total timber removed represents waste, but only a small part of this waste could be prevented without considerable increase in cost of utilization.

small trees that are potential saw timber, and often indeed from trees of saw-log size. Yet, much of these materials could come from the immense quantities of wood now wasted in the form of tops, limbs, stumps, and small or crooked logs, and of small trees that, with benefit to the remaining forest, could be taken out as thinnings. Thus, Sweden has built up a large paper industry, which derives its raw material almost solely from classes of wood that we now waste in woods and factory. The salvaging of this waste would release immense quantities of young growth for ultimate use as saw timber. The annual loss to standing timber from fire, windfall, insects, and disease is estimated at 7¼ billion board feet, most of which could be avoided by proper protective measures.

Equally conspicuous are the easily possible savings in the most valuable part of our timber supply, the saw-log material (fig. 55). Even a moderate reduction of the waste now occurring in the manufacture and use of saw timber and from fire and decay of lumber in use would add 7 billion board feet a year to our lumber supply. This is almost a fifth of our present lumber cut and is equivalent to the present growth of saw timber on 170,000,000 acres of forest land.

If in the near future we should adopt a crude system of forestry consisting chiefly of protection against fire and the provision of seed trees where needed, we could expect by 1950, on the area probably available for growing timber, a total annual growth of about 10 billion cubic feet, or about 4 billion more than the present annual volume of growth. This supposes that some of our forest area will still be in virgin timber, and consequently will not be available for growing timber. This growth, if relied on as our total supply,

AVERAGE ANNUAL REMOVAL OF STANDING TIMBER IN THE UNITED STATES THROUGH WASTE, DESTRUCTION, OR USE.

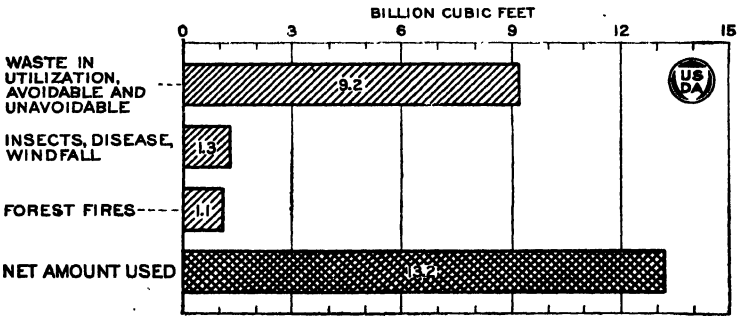

FIG. 55.—It is estimated that of the 25,000,000,000 cubic feet of standing timber annually removed from the forests of the continental United States nearly one-half represents waste. About one-tenth of the total removal is due to fire or insects and disease. The greatest volume of waste is in manufacture and use, comprising more than a third of the timber annually removed. However, most of this waste is not now avoidable without increasing considerably the cost of utilization.

would give a per capita consumption of about 67 cubic feet for a population of 150,000,000. This figure, however, will be increased by reason of the reserve supply of virgin timber, which may last well into the latter half of the present century, though of course it will become increasingly scarcer and more inaccessible and consequently higher priced. It may also be increased by imports, though at present imports and exports are about balanced. Large imports are probably out of the question, because of high transportation charges and growing competition for the timber of foreign countries, particularly conifers. It may also be somewhat further increased by the use of more intensive forestry in public forests, and in the more favorably situated private forests. But that by 1950 our per capita consumption will be markedly below what it now is seems inevitable. The trend of prices in itself creates a strong economic pressure toward lower per capita consumption. Compared with 1840 the average

price of lumber is now more than five times what it was then, whereas the average prices of all commodities are less than one and one-half times as great. One of the large elements in the high prices of lumber is the cost of freight, which has increased steadily with the increasing length of haul.

The fact is our per capita consumption of lumber had been declining for some time prior to 1920. In was higher in 1870 than in 1920. It rose steadily until 1906; from 1906 to 1920 it declined steadily at an average yearly rate of 2.8 per cent. Since 1920 consumption has been increasing, partly no doubt because of the resumption of construction activity suspended during the World War.

The future trend of consumption is impossible to predict, though there are certain tendencies that will permit us to make a fair estimate. The chief limiting factors will be, as in food production, the land available and the amount of labor and capital that will be devoted to timber growing. As we shall show, it is unlikely that our present forest area of 483,000,000 acres will need to be decreased in the next half century. If the present area were all in growing timber and were managed as intensively as the better managed forests of Germany, it could be made to produce about 28 billion cubic feet a year, which would give for a population of 150,000,000 a per capita supply of 180 cubic feet, and for 200,000,000, 135 cubic feet.

The production of 28 billion cubic feet a year within the next four or five decades is, however, entirely impossible. Even granted the land, the labor, and the capital necessary, it would require a long time to get all our forested land, including the 138,000,000 acres of virgin forest that still remain to be cut before growth starts, into productive condition, for most of our forests are badly understocked.

Probable Changes in Land Requirements During the Next Few Decades.

The preceding discussion has indicated the acreage of crops, pasture, and forest land that would probably be required to provide for domestic consumption under each of three extreme assumptions: (1) No reduction in per capita consumption and no increase in rate of yield per acre; (2) increasing yield of crop land to the average now prevailing in four countries of western Europe, and of pasture and forest to the averages characteristic of Germany in the period before the World War; and (3) decreasing per capita consumption to the standard prevailing in Germany before the recent war. The areas of land required for 150,000,000 people under each of the three assumptions may be summarized as follows:

TABLE 8.—*Land requirements for a population of 150,000,000.*[1]

Type of land use.	Assuming no changes in per capita consumption, or in the average yield per acre of crop land, carrying capacity per acre of pasture land, and annual growth per acre of forest land.		Assuming no changes in per capita consumption, but an increase to European standards in yield per acre of crop land, carrying capacity per acre of pasture land, and annual growth per acre of forest land.[2]		Assuming no changes in yield per acre of crops, carrying capacity of pasture, and growth of forests per acre; but a reduction in per capita consumption of food and forest products to the standard prevailing in Germany prior to the World War.	
	Total (thousands of acres).	Acres per capita.	Total (thousands of acres).	Acres per capita.	Total (thousands of acres).	Acres per capita.
Crop land	431,000	2.87	270,000	1.80	394,000	2.63
Humid grass land pasture	336,000	2.24	121,000	0.81	215,000	1.43
Semiarid pasture (constant)	587,000	3.91	587,000	3.91	587,000	3.91
Woodland pasture (constant)	237,000	1.58	237,000	1.58	237,000	1.58
Forest [3]	1,465,000	9.77	636,000	4.24	169,000	1.13
Provisional total	3,056,000		1,851,000		1,602,000	
Less duplication of forest and woodland pasture	237,000		237,000		169,000	
Net total	2,819,000	18.79	1,614,000	10.76	1,433,000	9.55

[1] With no allowance for exports and assuming the same proportion of our national consumption of farm products obtained from imports as for the present population.

[2] For maximum increase in crop yields, the basis of determination was the average yields, for four European countries; in humid pasture the carrying capacity of pastures in Germany; for semiarid pasture, the results of certain experiments under public management in this country; and for forests the average annual growth in the forests of Germany (see pp. 463–475).

[3] Area required for growing the timber consumed instead of cutting from a stored supply.

Each of the three columns in Table 8 is based on extreme assumptions. Nevertheless, they are exceedingly useful in defining some of the limits of the problem of land utilization. The first column emphasizes the fact that without important changes in methods of production, standards of consumption, or both, we could not provide for a population of 150,000,000 people. The second and third columns rest on the assumption that one type of adjustment will be exclusively employed—that is, either increase in production per acre or modification in standards of consumption. However, by the time a population of 150,000,000 people is reached, it is exceedingly unlikely that we shall increase the productivity of our crop land by 47 per cent, the carrying capacity of our humid grassland pasture by 122 per cent, and of arid pasture by 50 per cent, and more than double the average annual growth of our growing forests. On the other hand, it is scarcely probable that we shall modify our consumption of food products to approximate the economies of the German standard or reduce our annual per capita consumption of timber to only one-eighth of the present requirement.

Obviously, both adjustments in some measure will be made. These extremes are useful in showing the maximum economies that might be accomplished by each method, and thus indicate the limits within which an estimate of probable requirements may be made. The essential problem is to determine to what extent we shall employ each of the two methods of economy. It is, of course, obvious that in at-

tempting to answer this question we enter a field of prediction where the elements of uncertainty are numerous. However, one fact is clear, we shall be nearer the truth by assuming any combination of the two changes which are between the two limits of no change in either respect, on the one hand, or of a full change in both respects, on the other hand.

As to the relative importance of the two methods of economy, in the case of crop and pasture land, there are certain considerations which apparently indicate roughly the probable course the nation is likely to pursue. In the first place, the element of sacrifice involved in the German standard of consumption would be very much less than that involved in increasing production to the extremes assumed above. At most, the former involves the reduction of our per-capita consumption of mutton from 5.3 pounds to 2 pounds,[58] of beef and veal from 68 pounds to 39 pounds, of pork and pork products from 84 pounds to 75 pounds, of eggs from 28 pounds to 16 pounds, and of dairy products (in terms of milk) from 773 pounds to 711. There would also be certain changes in crop consumption, such as a reduction in consumption of sugar and increase in the consumption of cereals and potatoes. This is the extreme. It is not probable that we shall need to go this far in modification of habits of consumption, for it is reasonable to expect some increase in the production per acre of crops and of livestock products. However, it appears both desirable and probable that we shall go a considerable distance in the direction of this extreme economy of consumption, a probability that is emphasized by considering the extent of the task of effecting by increased efficiency of production most of the requisite economy.

Probable Changes in Production in Next Four Decades.

To increase our average crop production per acre 47 per cent may sound easy, but when we remember that this is an average increase to be attained for all of the crop land of the United States, the magnitude of the task that must be accomplished in perhaps little more than three decades if this method of economy alone were employed appears stupendous. Moreover, it should be noted that our record thus far indicates a very slow rate of progress in productive efficiency, so far as concerns increased yield per acre,[59] whereas, on the other hand, the increasing scarcity of grazing land has already resulted in a considerable decrease in number of livestock per capita.

Furthermore, the experience of Europe has shown that the high level of yield per acre achieved in those countries has been accomplished at exceedingly heavy cost as compared with this country. It involves a quantity of human labor per acre which is several times that of the United States, together with almost an equal quantity of animal power, and probably a considerably greater expenditure for fertilizer (see p. 475). While allowance must be made for differences in agricultural organization in this country and in Europe, all things point toward the probability that a marked increase in yield per acre is likely to involve an increase in costs per acre in considerably greater proportion.

[58] With either a corresponding economy in wool or increased importation.
[59] See p. 463.

In regard to crop land another important consideration is the fact that there remains a large area of humid land of fair productivity which can be added to the existing crop area by clearing operations no more costly than have been employed in that part of our agricultural expansion which preceded the expansion into the prairies and the Great Plains, as well as considerable areas of drainable and irrigable land of high fertility, not to mention the possibilities of expanding the crop area in the dry-farming regions. Much of the land referred to is now put to very low use. The value of the uses displaced by crops for the land needed during the next few decades, together with necessary capital charges for clearing, draining, or irrigating, are likely to be proportionately much lower than the increase in costs that would be involved in attaining by increased intensity of cultivation a degree of productivity comparable with that of Europe. It seems reasonable to believe that in the next three or four decades we may increase the yield of crop land by the use of some additional fertilizer, but probably without greatly increasing otherwise the intensity of field processes. In view of the above considerations, it would not appear wise to count on an increase in the average productivity of crop land by more than, say, 10 per cent in the next three or four decades, though unforeseen circumstances might result in a greater increase.

It has been noted that the possibilities of increase in carrying capacity of humid pasture other than woodland are very great, if we may judge by the example of Germany. The economy in the use of pasture area may take several forms: The substitution of forage and root crops for pasture is one of these. This tendency may be illustrated by the fact that in Germany the area of pasture other than woodland is a little over 60 per cent of the crop area, while in this country the area of humid pasture other than woodland, together with its equivalent in semiarid pasture, is about 118 per cent of the area of land in crops (fig. 56). It will be noted that the substitution of forage crops for pasture involves a larger labor requirement per thousand acres of both crops and pasture, although it does not necessarily imply an increase in the intensity of cultivation of crop land or an increase in its yield per acre. Again, increase of carrying capacity of pasture may be achieved by laying down permanent pasture instead of depending on spontaneous growth. This also involves a larger labor contribution in the national farm economy. The increased productivity of pasture may be achieved by better selection of pasture plants; better preparation of the land and more careful methods of laying down pasture; better adjustment of the time and intensity of use; and, in the sections where the pasture economy has become intensive, by the use of fertilizer on permanent pastures, as well as on rotation pastures. Finally, pasture economy may be furthered by more efficient methods of livestock husbandry, such as adopting high-grade livestock and employing such practices as will attain a maximum number of offspring, minimum losses, and maximum growth. These measures are especially important on the western ranges.

While the full employment of all these various methods may ultimately much more than double the carrying capacity of our humid pasture other than woodland and increase it by possibly 50

per cent on our semiarid range, it may be doubted if in the next three or four decades we shall succeed in raising the average level of productivity by more than 20 or 25 per cent throughout our enormous area of semiarid and humid pasture exclusive of woodland. Throughout large areas it is improbable that any considerable increase in productiveness will occur, for, the policy of relying on spontaneous pasture growths is likely to prevail. The use of fertilizer on permanent pastures is not likely to become general within that period, nor is it probable that the available supplies of fertilizer would make possible its general employment over so large an area. It is unlikely that the carrying capacity of woodland pasture will increase by any considerable amount.

ACRES OF HUMID PASTURE PER HUNDRED ACRES OF CROPS, UNITED STATES (EXCLUDING EXPORTS), COMPARED WITH FRANCE AND GERMANY.

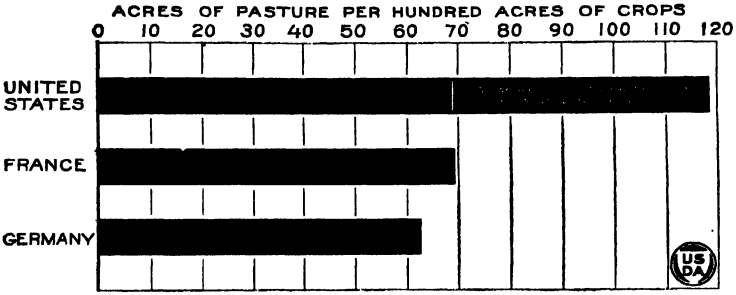

FIG. 56.—As the density of population in a country increases there is a tendency to rely more largely on crops rather than on pasture for the maintenance of livestock. The area of crops and pastures used for the United States excludes acreage employed in producing for export. If allowance were made for the crops imported and fed to livestock, the ratios of pasture land to crop land for Germany and France would be still smaller. The area of semiarid pasture in the United States has been converted to humid pasture on the basis of relative carrying capacity. For all three countries woodland is excluded, although used to some extent for pasture. It is probable that the proportion of total livestock units maintained by woodland pasture is slightly larger for the United States than for Germany and France.

Any forecast of the probable rate of increase in the average growth per acre of growing forest during the next few decades is complicated by numerous difficulties, particularly by the ownership of forest land. About 21 per cent of our timberland (exclusive of scrub forest) is in public ownership, and of this about 93 per cent is being handled to assure continuous growth of timber. About 79 per cent of our forests (and potentially among the most productive) is privately owned. Of this amount, 40 per cent is in farm wood lots and 60 per cent in other forms of ownership, chiefly large commercial holdings.

It may be safely predicted that all public forests will be more and more intensively managed, and will be largely added to from lands that would be much less productive if left in private ownership. Public ownership will thus add materially to the average annual growth per acre. Another factor that will probably increase our net total growth is the conversion of virgin forests, where growth is largely offset by decay, into young, growing forests. At present, however, a large proportion of the national forests consists of virgin

timber, which in many cases will not be in great demand until more accessible supplies are exhausted. Consequently, cutting off the old timber and getting a new crop started will necessarily be a gradual process.

The chief problem, then, is with respect to the private timberlands. At what rate may we expect these lands to be made more productive? Productive methods with farm woodlands, occupying some 150,000,000 acres, are hampered by the general lack of knowledge by farmers of the means to be employed. On the whole, for this important portion of our area of forest land we may perhaps expect a decrease in acreage and only a slow increase in rate of growth per acre.

For large commercial holdings the outlook is somewhat different. The increasing pressure of economic forces making for better forest management and higher yields is unmistakable. In several parts of the country, notably the Northeast, high prices of lumber and long freight hauls are making it profitable for the private land owner to grow timber as a crop. There is a well-defined movement to prevent in the public interest the denudation of private forests. Still more apparent is the trend toward public and private cooperation, on an adequate scale, for the control of forest fires. Such control is the first and most indispensable step toward making our forest land productive. Efforts are being made here and there by private industries to assure a continuous supply of timber by the careful cutting of their mature timber and by buying up lands stocked with young growth. However, the tendency toward private forest management is only in a formative stage. Only 43 per cent of our private timberlands have even partial protection from fire; and an almost negligible fraction get the benefit of more intensive measures for timber production.

Compared with the production of other crops, there is a far greater chance for increasing forest yields at a comparatively small expenditure. Under the crudest measures, chiefly protection against fire and leaving seed trees in some of the forest types, our annual growth on all forest lands, including virgin forests yet to be cut over, could be increased by 1950 from the present 6 billion cubic feet to 10 billion cubic feet. If these same crude measures should be permanently practiced, we could, on our present forest area, ultimately reach an annual growth of something like 14 billion cubic feet, about 56 per cent of our present forest drain.

The various measures mentioned probably will gradually ameliorate the outlook for our timber supply. At what rate this amelioration will occur depends so largely on psychological factors, public policy, and other unpredictable conditions as to make a forecast impracticable. It appears unlikely that within that period there can be so marked an increase in the average rate of growth per acre in our growing forests and in our gross yield as to offset the decrease in consumption forced by forest destruction.

Probable Changes in Consumption in Next Few Decades.

Some of the probable changes in consumption of crop products during the next 30 or 40 years should also be considered. In the first place, it is quite unlikely that we shall curtail our consumption of

sugar to the German standard. Even if we do not increase the proportion of the supply imported, it would not require a very large addition to our crop acreage to maintain the present per-capita consumption; in other words, the acreage required is comparatively small in proportion to the consumption utility involved. Again, it is doubtful if the cereal consumption habits of the American people will be greatly modified. The pressure of population in the next four decades will not be great enough to compel so prosperous a nation to substitute potatoes largely for bread or to shift from a wheat bread to a rye bread diet, and but little economy in land would result. There may be some tendency to shift to corn bread, because of its relatively greater cheapness. It is likely that some little increase may occur in the per capita consumption of potatoes and cereals to offset some of the probable reduction in the consumption of certain livestock products.

The principal changes, therefore, are to be looked for in the consumption of livestock products. The per capita consumption of dairy products is not likely to decrease very much, if at all. We have noted that even in so densely populated a country as Germany the per capita consumption of milk and milk products is but little less than in the United States. The consumption of mutton is very small in the United States. The greater proportion of our sheep are raised principally on pasture. If we should raise the same proportion of our wool supply as at present, this would enable us to maintain approximately the present per capita consumption of mutton, since the imports and exports of mutton are negligible. If we may judge from the experience of Germany the per capita consumption of pork and pork products is likely to decrease but little. Because of their ability to thrive on various forage crops yielding a large feed product per acre, and because of their comparatively small adaptability to the ordinary types of pastures, the relative importance of hogs is likely to increase as it becomes necessary to employ forage crops more and more in order to economize pasture; and, if anything, this relative increase is likely to be at the expense of classes of livestock better adapted to a pasture economy, such as beef cattle or sheep. Even in Germany the per capita consumption of pork and pork products is only about 10 per cent less than in the United States. It is probable, then, that when our population reaches 150,000,000 our per capita consumption of pork and pork products will be at least 95 per cent of the present consumption.

The per capita consumption of eggs in Germany is only a little more than half as great as in the United States. However, even before the World War, Germany was a relatively poor country, as compared with the United States. It is not likely to be a scarcity of land that will compel a serious curtailment in consumption of eggs and poultry, for in proportion to food produced, poultry require relatively little land and much labor, as compared with cattle and sheep. Consequently, they are especially adapted to the economy of a dense population. If the consumption of poultry and eggs per capita should seriously decrease, it is more likely to be due to the increased pressure of other food costs on the family income than because of the demands made by poultry on the supply of land.

If we approximated the German standard, we should consume only about three-fifths as much beef as at present. A population of 150,000,000 would not be dense enough to compel a reduction to the German standard. Moreover, the people of British origin who have so largely moulded our national standards, have exhibited great tenacity in clinging to a high per capita consumption of beef. However, we have already reduced our per capita consumption of beef considerably in the last two decades, and the increasing scarcity of pasture is likely to reduce it still more. As a basis for estimating land requirements, we may not be far wrong in assuming a reduction of 20 per cent in the number of beef cattle per capita.

It seems wise to consider that the number of horses and mules per thousand acres of crop land will continue as at present. The probable increase in productivity of crop and pasture land assumed above is not likely to increase the requirement per thousand acres of crop land by more than enough to offset the continued substitution of tractors and motor vehicles.

As already noted, our stock of timber would last for several decades even at the present rate of per capita consumption. However, the increasing remoteness or undesirability of remaining supplies is likely to result in increasing values and, therefore, probably in a continuation of the tendency toward a decrease in per capita consumption. For the period following the next few decades our per capita consumption depends very largely on what measures we take by way of providing for reforestation, promoting growth of timber, and reducing waste. It has been shown that on our present forest area it would be possible by methods of production relatively not very costly to grow annually by, say, 1950 about 10 billion cubic feet. This would give for 150,000,000 people a per capita supply of about 66 cubic feet, or more than double the per capita consumption of Germany or France. However, this presumes the early adoption of a vigorous forest policy. Moreover, while some of our stock of virgin timber will undoubtedly still remain uncut in 1950, it is likely to be in the more remote locations.

We have now made certain assumptions that will enable us to estimate roughly the probable land requirements when our population has increased to 150,000,000 people. On the basis of the assumptions of probable modifications in per capita consumption and of increase in productiveness of crop land, and in the carrying capacity of pasture, we shall require for a population of 150,000,000, three or four decades hence, about 373,000,000 acres of crop land and about 222,000,000 acres of humid pasture other than woodland, the areas of semiarid pasture and of woodland being held constant as in previous estimates. This estimate makes no allowance for exports and assumes the continuance of the present per capita imports of agricultural products.[60]

[60] The requirement for crops was estimated as follows: The changes in crop acreage used in producing food for direct consumption were estimated by assuming that the per capita consumption of certain items for 150,000,000 people will be the following percentages of present consumption: 103 per cent for cereals, 110 per cent for potatoes, 90 per cent for sugar, 95 per cent for hogs, 80 per cent for beef cattle, and 80 per cent for poultry, the other classes of food remaining unchanged. The requirement for work stock was estimated as follows: The areas at present used in producing food crops for domestic consumption, employed in producing crops used in feeding livestock, and for producing

Although the requisite increase in crop acreage to provide for 150,000,000 people, as compared with the acreage now employed for domestic consumption, is only a little larger than the acreage in crops now employed in producing for export (including the acreage required for maintaining work stock used in export production), it is not likely that we shall divert all of the land now used in producing for export to production for domestic consumption. Our country is especially adapted to the production of certain kinds of crops needed by the rest of the world, particularly cotton. It is not improbable, therefore, that (including the acreage required for work stock) we shall continue for several decades to devote to export production at least half the acreage we now employ for that purpose. This would add about 30,000,000 acres to the requirement of crop land, making a total of 403,000,000 acres. This is about 38,000,000 acres more than the acreage of harvested crops [61] in 1919, and requires the addition of about 1,000,000 acres a year. The allowance of half the present export acreage would also make necessary an addition of about 11,000,000 acres of humid pasture other than woodland, making a total requirement of 233,000,000 acres of humid pasture, or about 2,000,000 acres more than the present area.

It therefore appears that, provided we can make the very moderate modification in standards of consumption and productive efficiency assumed as a basis of these estimates and devote to domestic production about half the area now employed in producing for export, our needs for expansion of the farming area to provide for 150,000,000 people would be satisfied by adding about 40,000,000 acres of crop land and improved pasture to the farming area.[62]

The very moderate requirements for crop land and pasture will leave a very large area available for forests. It will be recalled

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crops for export were added. The sum was subtracted from the total acreage in harvested crops (1919), leaving the area employed at present in producing nonfood crops for domestic consumption. This figure was increased by the ratio of 150,000,000 to the population of 1920, and the resulting figure added to the estimated acreages required for food crops, and for livestock other than work stock, the sum of the three items being the estimated acreage of crops required for 150,000,000 people under the assumed changes in consumption, not including the area used to produce feed for work stock. The ratio of this figure to the corresponding figure for the population of 1920 was determined, the result being the ratio of work stock required for 150,000,000 people under the assumed changes, as compared with the number now required. The acreage required at present for work stock employed in producing for domestic consumption was multiplied by this ratio, and the result added to the acreage required for domestic purposes other than feeding work stock, as previously estimated. The sum was divided by 1.1 in order to allow for the assumed increase of 10 per cent in the average yield per acre of crop land.

The requirement of humid pasture was estimated as follows: The numbers of animal units of the different classes of livestock other than work stock to supply 150,000,000 people, under the assumed changes in consumption, were calculated by employing the same factors as in the case of crop acreage above. The percentage increase of work stock was calculated on the basis of the ratio of crop acreage required under the assumed changes in consumption and production, as previously estimated, to the acreage of crops in 1919. The number of animal units on semiarid pasture in 1920 was multiplied by 1.2 to allow for an increase of 20 per cent in carrying capacity. The sum added to the number of animal units on woodland pasture was subtracted from the total number of animal units required, the remainder being the number to be maintained by humid pasture. The ratio of this to the number of animal units now on humid pasture was determined and the acreage of humid pasture now employed for domestic consumption was multiplied by this ratio.

[61] For statistical reasons the estimates have been made on the basis of harvested crops. Allowance would also have to be made for the small additional acreage for crop failure, estimated at about 15,000,000 acres in 1919. However, it is probable that the proportionate requirements for this purpose would not greatly change. In a given year there is also a certain acreage of crop land in rotation devoted to pasture.

[62] If we should fail to economize as much as the very moderate modifications in consumption and production assumed as the basis of these estimates imply, the requisite increases of crop and pasture land would fall somewhere between the above estimates and the increase of 96,000,000 acres of crop land and 116,000,000 acres of humid pasture that would be necessary if no economies in consumption and production are effected (p. 462), allowing in each case half the acreage at present employed for exports.

that after allowing for the present requirements for roads, cities, railways, farmsteads, etc., and for the land that is physically incapable of being employed for crops, pasture, or forests, there remains an area of 1,769,000,000 acres available for the three uses. Allowing about 10,000,000 acres of land for the expansion of the area required for cities, roads, etc., during the next few decades, there remains available, 1,759,000,000 acres. Subtracting from this the 587,000,000 acres of semiarid pasture, the 403,000,000 acres of estimated requirement for crop land, an allowance of about 40,000,000 acres of crop land for annual crop failure and crop land fallow, and the 233,000,000 acres estimated to be required for humid pasture, there remain 496.000,000 acres of surface not required for any other use than forests, or 13,000,000 acres more than are now included in the area of forest and of cut-over land not restocking. In other words, with the reasonable economies and changes in foreign trade assumed above, it will be possible to meet the needs of a population of 150,000,000 for crop land and pasture and still have left an area larger than the present forest area.[63]

This does not mean that the 496,000,000 acres of surface left would all be adapted to forests. Some of this land would have to be reclaimed by drainage at an expense so excessive that it probably may never be reclaimed, even when the maximum population of the nation is attained; and a little of it also is too dry for trees. Consequently, it seems probable that the land available for use as forests during the next forest cycle will not be larger than the present forest area of 483,000,000 acres, which includes, it will be recalled, about 81,000,000 acres of cut-over land not restocking.

The Direction of Expansion of the Area of Farm and Forest Land During the Next Few Decades.

For the additional 38,000,000 acres of crop land there are available a little over 600,000,000 acres of potential crop land from which to choose, after allowing for the area of land suitable only for forest or semiarid pasture. Allowing for an area of forest land equal to the present forest area, there remain nearly 400,000,000 acres of potential crop land. Practically all of this is either inferior in quality or requires drainage or irrigation.

It is obvious that to obtain 38,000,000 acres from this great area should involve careful selection. Moreover, each of the several classes of potential crop land is likely to contribute toward the required amount. It will be recalled that the forested regions of the eastern half of the country are estimated to contain 220,000,000 acres of land capable of use for crops without drainage (see figs. 9 and 11), besides 151,000,000 acres of land so rough or so sandy that it may be considered suitable only for forests. Of the former area, 32,000,000 acres are classed as heavy soil. This is more than the 22,000,000 acres required for the expansion of crops during the next few decades; but a good deal of this land, while not absolutely too rough for use in

[63] On account of new materials made available, these estimates are somewhat different from those given in testimony by L. C. Gray before the Senate Committee on Reforestation (S. Res. 398) and also quoted in the article "Timber: Mine or Crop," Yearbook, 1922. While the estimated areas are not identical, the essential conclusions are the same.

crops, is quite rolling, and some is infertile. However, it would seem possible by careful selection to obtain a large proportion of the required 38,000,000 acres either from the heavy land of the cut-over region or from the best of the 162,000,000 acres of medium-textured soils or from semiarid land. In view of these possibilities it would seem hardly necessary to reclaim a large area by irrigation or drainage for the expansion of agriculture during the next few decades, and certainly there would be no justification in undertaking such reclamation except in the case of projects where the economy of reclamation could be demonstrated unequivocally.

Maximum Population That Could Be Maintained by Our Resources of Crop, Pasture, and Forest Land.

The statistics worked out in the preceding discussion also supply a basis for estimating the maximum population that may be maintained by our existing land resources, assuming no greater relative dependence on imports than at present. Starting with the per capita acreages required under the extreme economies represented by the pre-war German standard of food and timber consumption, and allowing for the maximum economies in production shown to be possible by European experience, we may estimate the minimum acreage required per capita for the several uses. The sum of the per capita areas for crops and humid pasture divided into the total area available for these purposes will indicate approximately the maximum population under these assumptions. However, it is necessary to make allowance for the fact that the area of semiarid pasture will be not only about 119,000,000 acres less than at present, but, together with woodland, will carry proportionately a much smaller part of the total livestock units, even allowing for an increase of 50 per cent in its carrying capacity, thus throwing a somewhat greater burden on humid pasture.

When all these allowances are made a maximum population of 350,000,000 is indicated.[64]

Another method of estimating maximum population is by means of the areas per capita employed for crops and pasture in Germany. Of course, Germany was more dependent on importation than we are in the United States (fig. 57). In the case of 10 principal crops largely grown in the country, a careful estimate indicates that Germany was about 79.3 per cent self-sufficient in crop production.[65] No

[64] The method of calculation was as follows: The per capita area of humid pasture other than woodland that would be required under the German standard of consumption, if no semiarid or woodland pasture was available, was calculated on the basis of relative carrying capacities of the several classes of pasture. This per capita figure was divided by 2.22 to allow for a potential increase of 122 per cent in carrying capacity. The per capita crop area under the German standard of consumption divided by 1.468 to allow for a potential increase of 46.8 per cent in average yield was added to the per capita requirement of humid pasture, and this sum was divided into 1,004,000,000 acres, indicating a provisional population of 330,000,000 people without allowing for use of semiarid and woodland pasture. This allowance was made as follows: The number of livestock that would be carried on the area of semiarid land capable of being used only for pasture was estimated on the basis of present carrying capacity. This was increased by 50 per cent to allow for potential increase in carrying capacity, and the resulting number added to the number of animal units carried on woodland pasture. The total was then divided by the number of animal units per capita required under the German standard of consumption. This gave the number of people that could be provided for by the available semiarid and woodland pasture. This number divided by the per capita requirement of humid pasture under the assumed economies in consumption and production, as previously calculated, indicated the area of humid pasture to which the semiarid and woodland pasture would be equivalent. This equivalent was added to the 1,004,000,000 acres and the sum divided by the total per capita requirement of crop land and humid pasture.

[65] On the basis of calories for human consumption, including animal products used in the diet, it is estimated that Germany was about 85 per cent self-sufficient.

estimate is available for the degree of self-sufficiency in pasture production; but if this be assumed to be the same as for crops, the per capita requirement for Germany was approximately 1.4 acres of crops and pasture (other than woodland) per capita. Assuming that Germany was 80 per cent self-sufficient in the years just preceding the World War, the per capita acreage required to maintain her

PER CAPITA ACREAGE IN CROPS, HUMID PASTURES (AND EQUIVALENT), AND FORESTS USED FOR DOMESTIC CONSUMPTION, UNITED STATES, FRANCE, AND GERMANY.

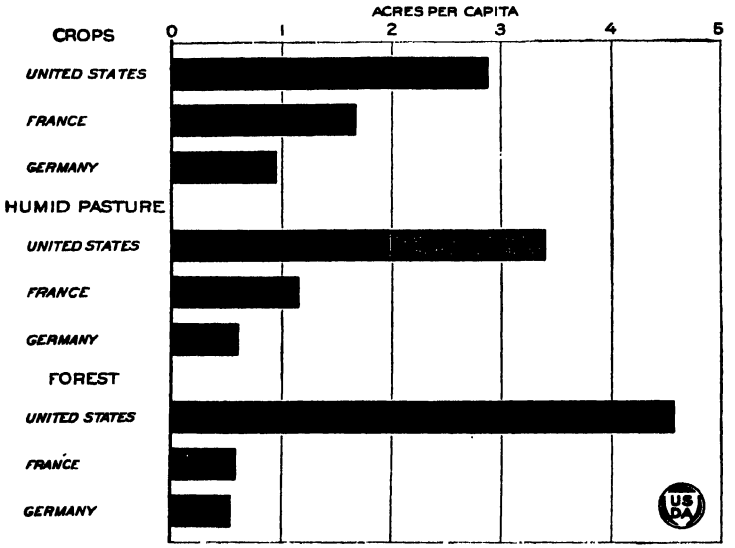


FIG. 57.—The acreages of crops and humid pasture for the United States do not include land employed in producing for export. No allowance is made for the acreage in France and Germany that would be required to produce the farm products imported. The column showing pasture area per capita for the United States includes an allowance for semiarid pasture converted to terms of humid pasture on the basis of relative carrying capacity. In all of the countries some use is made of forest for pasturage of livestock. In comparing the forest area per capita of the United States with the corresponding figures for the two European countries it is important to note that the former country is cutting largely from a stored crop, while the forest acreage of the two European countries is employed mainly in growing annual crops of timber. Furthermore, nearly 17 per cent of the so-called forest area of the United States consists of cut-over land not restocking.

population under the average conditions of production prevailing in that country was about 1.75 acres. After excluding land required for cities and other nonagricultural uses,[66] the area of land usable only for semiarid pasture or for forests, and waste land, there would remain a total of about 1,004,000,000 acres. On this basis our land area available for crops or humid pasture could be made to maintain a population of 574,000,000 people, even if no allowance be made for the additional aid supplied by our semiarid pasture.

The large difference between the two estimates is due to the fact that the first estimate was made on the basis of the assumption that the average yield per acre of crops may be increased by 46.8 per cent, which is based on averages for four European countries, with

[66] Including an allowance for the larger area required for our maximum population.

supplemental estimates for corn, hay, and cotton. The average, however, is considerably lower than the percentage by which the average yield of crop land in Germany exceeds the average for the United States. However, on account of the large area of semiarid crop land, it is very improbable that we could attain the average yields of Germany throughout our crop area. Consequently the average yields for the four countries previously employed is a more conservative basis of estimate. If allowance be made for the differences, a maximum population of about 345,000,000 is indicated.

This would seem to indicate that the preceding method of estimate is reasonably sound. As a matter of fact, both methods exaggerate somewhat the probable maximum population, or saturation point, for a number of reasons.

In the first place, the 1,004,000,000 acres of land available for crops and humid pasture includes all land that is physically capable of being employed for crops and pasture (not counting semiarid pasture). About 105,000,000 acres requires drainage or irrigation and includes large areas of land for which the expense of reclamation would be enormously costly; in other words, it is physically reclaimable but probably not economically available even under the pressing demands of a dense population. Again, the total area of 1,004,000,000 acres includes much land of low productivity either because of the character of the soil or because of aridity. It may be granted that the pressure of population would justify the expenditure of labor necessary to make and keep the poor soils of the humid region as productive as the average soils now in use will be made when necessity compels, but the total area includes more than 120,000,000 acres of semiarid land that probably can never by any economical expenditure of labor be made to produce on the average more than a fifth of the potential average product on the other lands of the United States. If these allowances be made and the available productive area be reduced to the equivalent in potential productivity of the area now in use under intensive agriculture, the available acreage would be about 908,000,000 instead of 1,004,000,000. On the former basis, the maximum population maintainable according to the first method of estimate would be about 319,000,000, while on the basis of the German requirements in per capita acreage it would be about 519,000,000. However, if the allowance be made, as above, for the difference in average yield of crop land for Germany as compared with the average for the four European countries, the maximum population would be about 312,000,000. Probably, all things considered, the maximum number maintainable under the standards of consumption prevailing in pre-war Germany and of production in the four European countries previously discussed would be not far from 300,000,000 people.[67] This would involve a severe reduction in

[67] By a study of the relation of cultivated acreage to population in Germany, France, and Belgium, Prof. E. M. East has concluded: "The maximum population the United States can support under any conditions conceivable to those of us who live at the present day, therefore, is 331,000,000." "The Agricultural Limits of Our Population" in The Scientific Monthly, XII, No. 6, p. 555. By an entirely different method of calculation—that is, by the projection of a population curve—Profs. Raymond Pearl and L. J. Reed have reached the conclusion that our maximum population will be 197,000,000. "On the Rate of Growth of the Population of the United States since 1790 and its Mathematical Representation" in Proceedings of the National Academy of Science, VI, pp. 275–286. If the population should become stationary at the figure suggested by Professor Pearl it would be due to economic and social motives working to limit population, rather than to the physical incapacity of our land resources to maintain a larger number.

general standard of living because of the heavy costs of utilization; and consequently the so-called saturation point, that is, the point beyond which population would no longer increase, may be reached considerably short of 300,000,000.

Conclusions.

The Problem of Forest Utilization.

The data that have been presented have indicated that during the next forest cycle an area of humid land as large as the present acreage of forest and cut-over land will not be needed for crops and pasture. An area of this magnitude would include not only the lands unsuitable because of hilly conditions or rough surface for any other use than forests, but also practically all of the sandy lands in the humid portion of the country and even a few million acres of the heavier soils. Probably small portions of this great area with special advantages in access to market may be devoted to trucking and fruits, but it would appear to be the part of wisdom to regard the area as a whole as suitable only for forest land during at least the next forest cycle of, say, 50 years and to take the necessary steps for reforesting as much of it as practicable.

This task is too large to leave wholly to private initiative and too urgent to leave to economic chance. Our forest wealth has melted away before our immense agricultural and industrial development, which caught us unprepared to take this fundamentally new step in our development, the cultivated forest. Only a beginning has been made in changing the national point of view from the idea of wasteful and unrestricted use to the idea of careful forest husbandry based mainly on the principle of growing our annual supply. Still less has been the advance in better forest management itself, for, aside from the one-fifth of our forest area in public ownership, relatively minor progress has been made either in stopping forest devastation or in the elementary steps toward adequate reforestation. Meanwhile, without a drastic and immediate change in policy, there looms a sharp curtailment of timber consumption below anything our population or our industries can easily be adjusted to. It is therefore obvious that a comprehensive policy is needed, the main elements of which may be stated as follows:

The growth problem.—Some of our public forest lands have not yet been brought under management for continuous timber production. This should be done as rapidly as possible. In order to help tide over the era of timber shortage, the standard of productivity of all public forests should be increased by better protection from fire, insects, and disease; by a more adequate technical service both in forest research and in forest management; and by large-scale planting of now idle lands. As our public forests are largely in Federal ownership, this is chiefly a Federal problem.

The problem of increasing the yields on private lands is much more complex and difficult. One large part of that problem is the better handling of our 150,000,000 acres of farm wood lots. The first essential step is to educate the farmer to apply to his wood lot the same idea of continuous cropping that he applies to his

fields. He will have to learn to use selective cutting, to exclude or restrict grazing in his woodlands, and to keep out fire. He will need assistance in marketing his timber products and in obtaining cheap nursery stock for planting. Public leadership is needed in all these ways.

Increasing the yields of private lands implies first of all that the public will step in and put a halt to forest denudation. Irrespective of who will in future own these lands or who will harvest the final crop, the present owner must be required, in cutting his timber, to leave the land in productive condition, that is, restocked or restocking with young growth. To permit him to do this, however, with a reasonable chance of profit, the public must do its share to reduce the risks. The chief risk, fire, must be met by a concerted effort by the National and State governments and by private owners to reduce fires to the point where all forests have a fair chance of escaping destruction somewhere on the road from youth to maturity. The risk to the individual may also be lessened by providing an adequate system of timber insurance. The development of systems of credit adapted to the special conditions of timber ownership by private agencies is another thing needed for encouraging private initiative, especially for small holders. It is also essential to encourage the private timber grower by supplanting the present property tax on growing timber crops with a more efficient form of taxation. The property tax is collected annually even though the crop may not be ready to sell for many years, and will be increasingly burdensome as private reforestation becomes more general. A third way in which public agencies can help increase yields is through more adequate research in methods of timber growing and forest management, and by educational efforts to get those methods into use.

The waste problem.—Public leadership is needed to reduce the large waste of merchantable timber from fire, insects, disease, and windfall. Still larger are the problems of wood waste in manufacture and use, all the way from the woods to the finished product. These problems require research and public leadership on a larger scale than we have at present.

In short, the forest problem requires rapid action on a large scale, for we are compelled within a few years to effect a veritable revolution in the point of view and methods involved in the utilization of land for forests.

The ownership problem.—It is desirable to develop private enterprise in forestry as rapidly as possible, as outlined above, but it is well to recognize that we should not rely on this as the major means of providing for the era of prospective shortage. Time is necessary to develop the requisite interest, and the potent stimulus of high values for timber and timber products is becoming influential only gradually.

To meet the need for rapid action within the next few decades to make provision against the severe shortage that is in prospect it will be necessary to rely heavily on public ownership and operation. The public forests—Federal, State, county, and municipal—now constituting only about one-fifth of our forest area should be largely in-

creased (fig. 58). Of our 483,000,000 acres of forest and cut-over land half should be in public ownership. This would involve an increase of 150,000,000 acres, or several million acres each year.

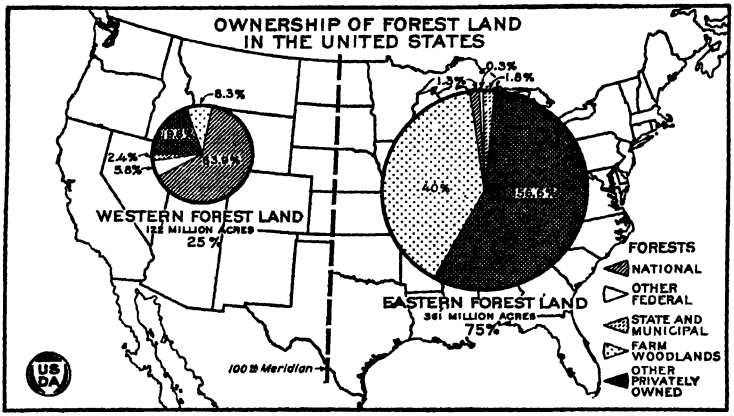


FIG. 58.—In the eastern forest region, which comprises 75 per cent of the total forest area of the United States, the national forests are only 1.3 per cent of the total, and all publicly owned forest land in this region is only a little more than 3 per cent. Two-fifths of the area is in farm-wood lots and the remainder consists of privately owned forests. In the western region about 70 per cent of the forest area is owned by the Federal Government, while 28 per cent consists of privately owned forests.

Land Classification Essential to the Systematic Selection of Land for Crops, Pasture, and Forests.

The above conclusion implies that the areas that are to be devoted to reforestation, as well as the areas that should be reserved during the next forest cycle for pasture and for crops, should be determined by deliberate selection. To this end it has been recognized for some time that a systematic classification of our reserve land area is requisite. Such a classification would serve not only to separate farm land from forest land in humid regions but also to distinguish farm land from range land in semiarid regions, and this would afford a basis for systematic direction to the necessary expansion of American agriculture.

The Misdirection of Agricultural Expansion.

Land settlement no longer consists of the spontaneous migration of population to virgin public lands of high quality. At present it is largely induced by the ceaseless activity of various classes of land-selling agencies seeking to profit by the sale of land. Owners of land however unsuitable for farming, are strongly impelled through the constant pressure of taxes and other carrying charges to sell it if possible. Local communities appear to benefit by the immigration of settlers even if they are unsuccessful in maintaining themselves on the land, and the unsuccessful settlers themselves are often eager to "unload" on another wave of immigrants. If outside in-

vestors or public agencies can be induced to undertake works of reclamation, there results at least a temporary increase in community prosperity as a result of the expenditure of the funds in the community. Furthermore, experience has shown that with sufficiently strong selling methods it is possible to find buyers for land entirely unsuitable for farming.

These forces and methods have resulted in the continual misdirection of land utilization and settlement. Land that should be kept in forests for at least the next forest cycle has been forced into occupation by settlers. Large areas in the West, more suitable for grazing than for crops, have been sporadically settled to the detriment of the established range industry.

The misdirection as to time and rate of settlement has been no less costly than the misdirection as to place. Settlement activity is always most extensive at times when agriculture is "booming." At such times, when land values are inflated and costs of reclamation, buildings, livestock, and machinery are at high levels, settlers in large numbers incur these high costs only to be compelled shortly to enter a period of depression under a heavy load of indebtedness.

Tendency to Overexpansion of Agriculture.

Furthermore, as a result of the desire of settlers to benefit by increase in land values, stimulated still more by the activity of agencies striving to effect the sale of land, expansion in land area tends to run ahead of the need for land. The evil results of this tendency are manifold. The enormous losses incurred by settlers in abortive attempts to obtain a foothold on the land and the consequent disappointment and disillusionment are paralleled by the losses of financial agencies engaged directly or indirectly in promoting land settlement. But even more serious is the tendency to lower the average level of profitableness for the established farming industry.

So continuous has been this tendency to overexpansion throughout the period of our national development that there has come to be a sort of cynical resignation to the evils involved and an acceptance of them as the inevitable price of national expansion. This is reflected in the widespread belief that at least three waves of settlers are necessary in order to settle a new region. Sometimes the attempt is made to justify the costliness of our let-alone policy in land settlement by pointing to the rapid expansion and growth in national area, population, and wealth. It should be recognized, however, that our tremendous progress has been due to our unusual advantages in national and in human resources, and would not have been seriously checked by reasonable restrictions designed to give direction to the currents of expansion and to reduce somewhat the wastefulness and costliness of the process.

In order to justify a policy of expansion without reference to whether basic economic conditions are favorable or unfavorable to such expansion, much is made of the sentimental argument, "We need more farm homes." To this one might make the somewhat oracular reply, "We do not need more farm homes than farms"—that is, it is useless to multiply farm homes which can not be adequately supported by the farms, and particularly to multiply them

under schemes which involve the assumption of heavy indebtedness by the farmers.

Driven from the sentimental position just described, the advocates of undue expansion sometimes resort to the suggestion that there can not be too many farm homes in which the family is fed from the farm. This is intended to justify the increase of farms on the ground that self-sufficing farmers will not compete with farmers already established. However, if the new farmers are persons now engaged in industry, their diversion to farming must result in increasing the competition of existing farmers, for a certain number of consumers are thereby brought to produce their own food. If the new farmers are immigrants from abroad, they bring their consuming power with them, it is true, but they will not long be content to remain where they get nothing but food and hard work. Moreover, the establishment of self-sufficing farm homes by any policy involving reclamation or other initial capital expenditures is practically out of the question if the costs must be assumed by the purchaser of the farm.

Some advocates of undue and ill-timed expansion of the farming area of the nation accept the assumption already mentioned that such expansion is inevitably wasteful and attended by heavy financial losses to those who undertake it, and on the basis of these assumptions boldly argue the necessity of a policy of subsidizing expansion. It should be pointed out, however, that it is the tendency toward the over-expansion of the farming area which, by reducing the profitableness of farming, makes the policy of subsidy necessary. The subsidy tends to overstimulate the expansion of the farming area, and this in turn makes the subsidy increasingly essential. Thus, like a drug addict, we must go on and on increasing the dose.

Need for Systematic Direction to Agricultural Expansion.

In order to prevent as far as possible the evils of over-expansion and misdirected expansion it would be necessary to develop a policy of unified and systematic direction to land settlement.

Such a policy would be, in general, essentially different from the land policies of the past. For more than a century the characteristic policy was the distribution of the public domain among private individuals, with little or no reference to the need for the land or the suitability of land for settlement. Since the passing of this phase of our land policy the most important feature of our policy of land settlement has been the reclamation system. This policy has been carried out with little attempt to relate the rate of reclamation to the Nation's needs for farm land. Moreover, in its application the policy has been sectional rather than national, and in some cases the areas settled have not been best adapted to the development and maintenance of successful agriculture. This tendency has been increased by the indirect subsidy involved in the exemption of settlers from interest on construction costs, a subsidy which has been estimated at approximately $70,000,000.[69]

[69] An estimate by R. P. Teele, associate economist, Bureau of Agricultural Economics (Division of Land Economics).

In a national policy of directing land settlement due consideration should be given to the needs, both national and local, for land to be devoted to crops, pasture, and forests, and also to the relative advantages of all parts of the Nation for the various uses of land. Another important consideration is the economic value of wild life. In addition to the value of forests for timber production, it is important to consider their value in providing a home for many kinds of useful birds and other forest-loving animals; and in deciding upon the drainage of marshes and shallow lakes, their value in the natural state as breeding places of fish, birds, and fur-bearing animals should be adequately considered. The recreational value of wild lands, as well as their direct economic value in the wild state, should not be overlooked.

Clearly, the interests involved are too great to be left to chance, for the *let alone* policy of the past few decades has been a source of enormous economic waste, and social misery. Nor can such interests be left entirely to the individual States, for it frequently appears to be to the interest of a particular State to attract settlers from other States, with little reference to the bearing of such action on the national needs for the various uses of land or to whether the change is for the better from the standpoint of the welfare and efficiency of the settlers.

In view of these considerations, emphasis is given to the suggestion of the National Agricultural Conference of 1922 that some Federal agency be granted authority to work, in cooperation with the States, in giving systematic direction to the expansion of American agriculture, on the basis of a scientific land classification.

Importance of Taking Steps to Increase the Productivity of Crop and Pasture Land.

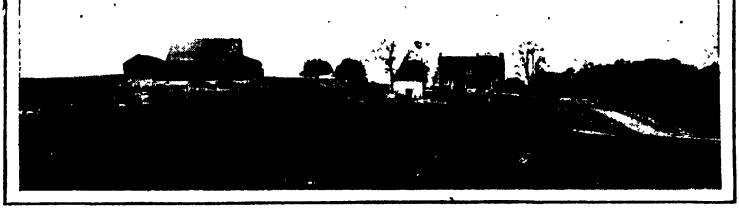
The facts presented in this article emphasize the importance of increasing somewhat the productivity of crop and pasture land, if the requirements of expanding population during the next few decades are to be met. To a large extent this progress must be achieved through the aid and stimulus afforded our farmers and ranchmen by means of research and extension activities. However, in the case of the large area of public land now used as open range, it is generally recognized that the present system of unrestricted free use of these lands is lessening the value of large areas of grazing land and is seriously crippling the range stock industry. The effect of the enlarged homestead and grazing homestead acts was to still further demoralize the industry. It is believed that by creating grazing districts operated under a permit system of regulated grazing, as in the national forests, an increase in the carrying capacity such as has been accomplished in the national forests could be achieved.

Need for Administrative Unification of National Land Policy.

A consideration of the group of programs that have been suggested above indicates that they can not be regarded as isolated policies, each of which can be effectively carried out by separate agencies. On the contrary these policies are closely interrelated, and

the essential need is for a unification in the future development of our national land policies. Unfortunately during the past 100 years the different functions connected with land policy have been distributed among various governmental agencies. As one looks into the future, however, it becomes apparent that we are entering an economic era in which the various functions involved in working out the new policies are vitally interrelated, requiring unification in administration. Only by such unity of policy and of execution can ill-considered and excessive expansion and rapid but wasteful utilization be supplanted by deliberate selection, careful economy, and constructive development with due reference to the long-time requirements of the nation.

FARM OWNERSHIP AND TENANCY



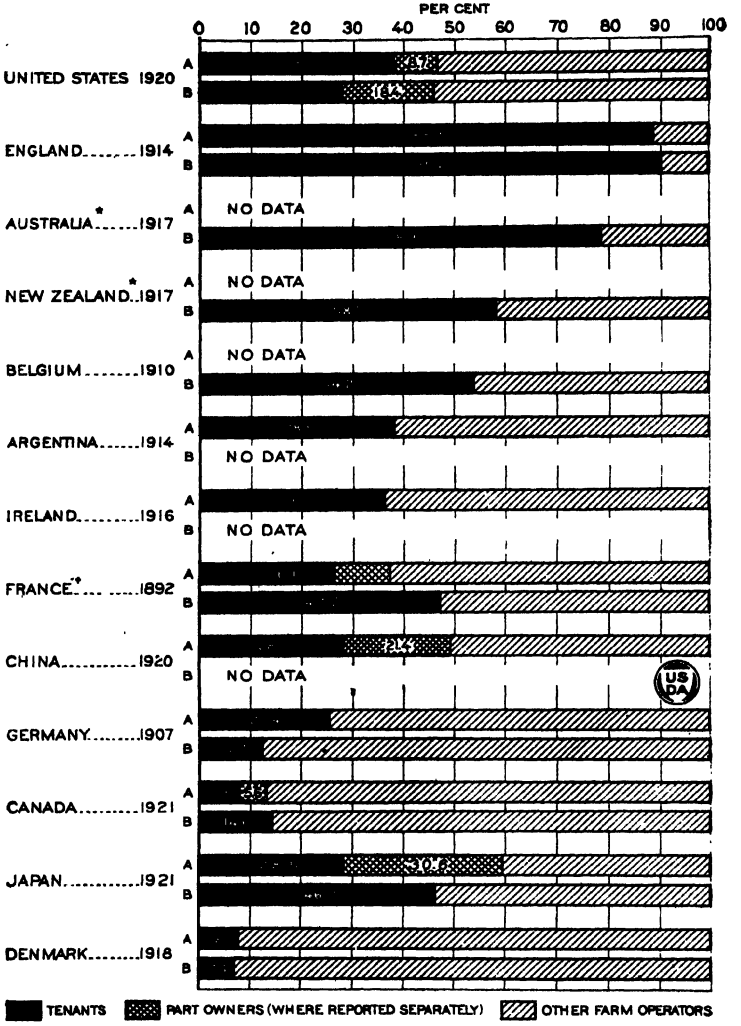
By L. C. GRAY, CHARLES L. STEWART, HOWARD A. TURNER, J. T. SANDERS, and W. J. SPILLMAN, *Bureau of Agricultural Economics.*

THE general attitude toward the subject of land ownership and tenancy in this country has been determined by our very recent emergence from the pioneer stage of agricultural development. In that stage farm land was superabundant and its ownership easily acquired. There was little necessity for farmers to obtain the use of land by renting it from others, and those who continued long as tenants were largely of the less efficient and enterprising class. As land in the older communities became scarce, the more enterprising of the younger generation who were unlikely to inherit land pushed on to new regions where farm ownership could be easily acquired. The competition of the newer areas of virgin soil prevented an abnormal increase in the value of land in the older regions and made it relatively easy to achieve land ownership.

Largely as a result of these earlier conditions farm ownership by the farmer has come to be regarded as normal, and tenancy as abnormal. The increase of tenancy has been "viewed with alarm" by many people, and there has been a tendency to attribute in an indiscriminate manner to institutions of tenancy nearly all of the economic and social ills that manifest themselves in the rural community. Now that we have passed beyond the pioneer stage and have entered upon a more mature phase of national development, it is desirable to attempt to get a well-rounded conception of the significance of farm tenancy, which is by no means peculiar to the United States, but is found to some extent in all civilized nations, and particularly in English-speaking countries (fig. 1). Endeavoring, then, to approach the subject with an open mind, let us first take stock of the present extent and relative importance of the different classes of land tenure [1] and trace briefly the recent trends with reference to land ownership and tenancy as shown by census and farm-survey statistics.

[1] Tenure in this country, though commonly referred to as allodial, is, in all cases, held subject to the paramount authority of the State. The classes referred to as tenure classes in this study are somewhat more inclusive than when defined legally. One class, managers, is included here, although as such they can scarcely be said to have tenure with reference to land.

PERCENTAGE OF FARMS AND FARM ACREAGE OPERATED BY TENANTS, SELECTED COUNTRIES; INCLUDING PART OWNERS IN UNITED STATES, FRANCE, CHINA, AND CANADA.



* *Crown Land accounted for 46 per cent in New Zealand and 77 per cent in Australia*

† *Exclusive of worker's tracts operated by owners. Percentage of farm acreage rented by part owners not separately reported*

FIG. 1.—Farming by tenants and other lessees is less prevalent in the United States than in England, Australia, New Zealand, or Belgium; is of about the same prevalence as in Japan, France, or China; and is more prevalent than in Germany, Canada, or Denmark from the standpoint of the proportion of farmers who are tenants and also from that of the proportion of acreage rented. The information shown is the latest available. In France and Canada the acreage shown as rented includes that of part owners as well as that of tenants. The percentages for the United States include only land in farms. The proportion of the land operated by those farmers who do not own it is probably higher than shown above. (See pp. 521–522.)

Relative Extent of Different Classes of Tenure—The United States as a Whole.

Land is either owned by the farmer or rented under one or more of the various methods of leasing used in this country. There is some variation in the different States as to the legal rights and privileges involved in ownership, but these differences are incidental rather than of basic economic significance. There are also some differences as to the legal status of tenancy. But for the most part, the great contrast in the forms of tenure in different parts of the United States are economic rather than legal.

Some farm operators own all of the land they operate (owner farmers), others own none of it (tenants or croppers), and still others own part and rent part (part owners or owners additional). Sometimes farm operators employ managers to direct the business of

TENURE OF FARM REAL ESTATE MEASURED IN FOUR WAYS, UNITED STATES, CENSUS OF 1920.

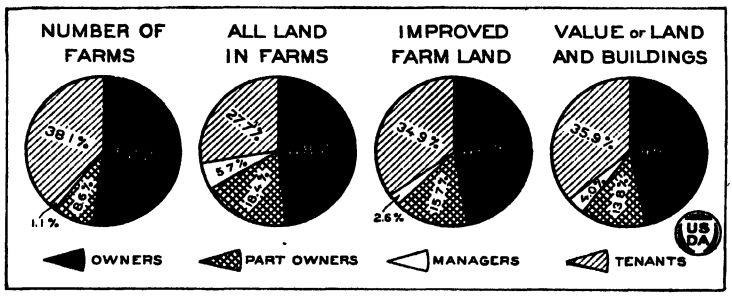


FIG. 2.—More than half the farms in the United States are operated by full owners, but somewhat less than half of the land or of the value of farm real estate. Although tenants who rent all the land they operate constitute over 38 per cent of all farmers, they operate less than 28 per cent of the farm land, only about 35 per cent of the improved land, and about 36 per cent of the value of farm real estate. Manager-operated farms average five times as large in total acreage as other farms, have about 2½ times as much improved land, and are valued, on the average, at nearly four times as much.

farming. Our census statistics classify farmers into these four groups, and in the census of 1920 croppers in the Southern States, who supply no work animals and in most cases are laborers paid by a part of the crop rather than in cash, were separated as a subgroup under tenants.

The relative importance of these four classes of farmers may be measured not only in terms of the proportion of farms operated by each class, but also from the standpoint of the proportion of the acreage of all farm land, of improved land, and of the valuation of farm real estate operated by each of these tenure classes. These four methods of measuring the relative importance of the four tenure classes give somewhat different results (fig. 2).

Relative Importance of the Tenure Classes at Present.

Although over half the farms in 1920 were operated by farmers who own all the land, less than half the farm land was in these full-owner farms, and an even smaller proportion of the improved

land and of the valuation of the farm real estate. But if part owners be included, whose farms are much larger than those of full owners, the percentage of the total farm land operated by these two classes rises to 66.6, as compared with 60.8 per cent of the number of farms. On the other hand, tenants constituted over 38 per cent of

PERCENTAGE OF FARM HOMES RENTED COMPARED WITH OTHER HOMES, UNITED STATES, CENSUS OF 1920.

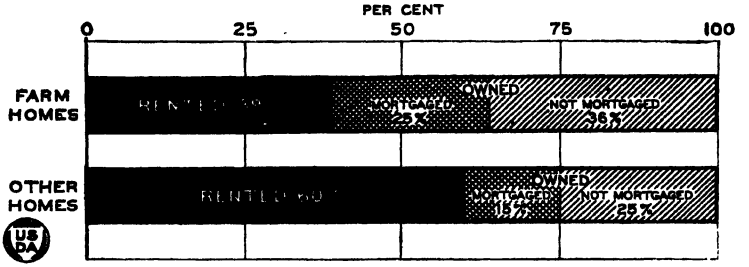


FIG. 3.—The proportion of the farm homes rented is only about two-thirds as large as the proportion of city and village homes rented. The proportion of farm homes free of mortgage encumbrance and occupied by the owners is also larger than in the case of other homes. Farm homes comprise the homes of persons engaged in farming and located on farms. Homes occupied by farm managers are included under farm homes rented.

the farmers of the United States, but operated less than 28 per cent of the improved land and of the valuation of farm real estate. As shown in Figure 3, the proportion of farm homes rented by the occupants is smaller than in the case of urban homes. Moreover, some of these farm tenants own other farms. While no census statistics bearing on this point are available, local surveys in 15 States indicate that about 10 per cent of the tenants owned farm land.

The relative importance of manager-operated farms, like those of part owners, is greater than their number would indicate, for such farms are not only larger in average area and valuation than other

OWNERS, PART OWNERS, MANAGERS, AND TENANTS; PERCENTAGE OF TOTAL FARMERS; UNITED STATES, CENSUS 1880–1920.

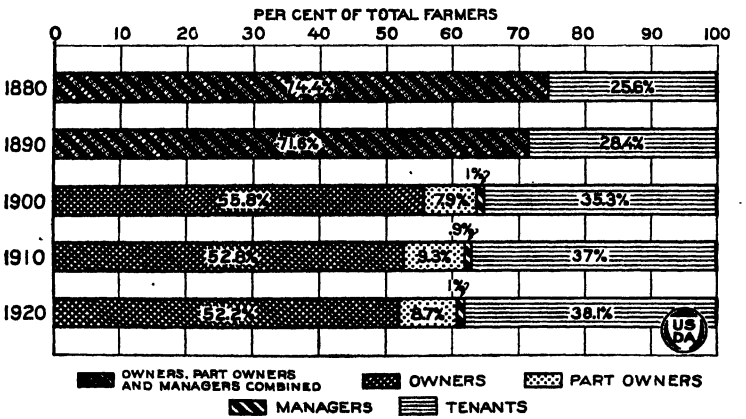


FIG. 4.—In 1880 and 1890 owners, part owners, and managers were not separated in the census statistics. The increase in percentage of tenancy between 1880 and 1900 was 3½ times the increase between 1900 and 1920.

classes of farms, but also in the South there are many plantations worked by croppers and tenants, under the close supervision and direction of a manager. Even though the entire plantation is so operated, each tenant or cropper holding would be reported in the census as a farm, but the estate as a whole would not be reported as operated by a manager.

The same condition tends to exaggerate the relative importance of tenant farming as compared with owner farming, for many of the plantations of the South, as well as a considerable number of large farms in other parts of the country, although divided up into so-called farms worked by tenants and croppers, are actually under the close supervision and management of the owners. Excluding croppers classified in Southern States only, tenant farms in the country as a whole comprised only 32.2 per cent of the total number of farms in 1920 and white tenant farms only 28.7 per cent of the farms operated by whites.[2]

The Trend in Relative Importance of the Tenure Classes.

In 1880, when census statistics of tenure first became available, about one-fourth of the farms in the United States were operated by

OWNER FARMERS, TENANTS, AND OTHER PERSONS (MOSTLY WAGE LABORERS): PERCENTAGE OF ALL PERSONS 10 YEARS OLD AND OVER ENGAGED IN AGRICULTURAL PURSUITS, UNITED STATES, 1880–1920.

(Computed from census statistics.)

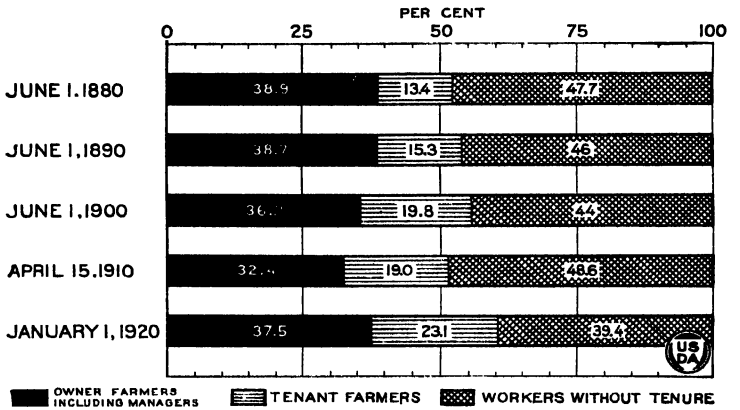


FIG. 5.—On account of changes in the time of year of taking the census, the percentages shown above, particularly those showing the number of farm laborers, are not exactly comparable. The first three census enumerations were taken as of June 1, and indicate that the rapid increase in the percentage of tenant farms was partly at the expense of the proportion of owner farmers and partly at the expense of farm-wage laborers. The census of 1920 was taken as of January 1, and as a result a much smaller number of laborers were reported than would have been reported if it had been taken June 1. On the other hand, the figures as of April 15, 1910, may have resulted in exaggerating the number of farm laborers.

tenants. The proportion has increased in each decade since that time, but the increase in the proportion of tenants from 1900 to 1910

[2] No attempt was made by the Census Bureau to separate croppers from tenants before 1920. In that census they were defined and enumerated as tenants to whom the work stock was furnished by the landlord. The tabulations were made only for the South and showed 561,091 croppers in that section. Some farmers corresponding to the above description are to be found in other parts of the country, although relatively few in number.

was not marked, and from 1910 to 1920 was still smaller (fig. 4). Moreover, when the percentages are calculated on the basis of persons engaged in agriculture, instead of on the basis of number of farms operated, it appears that the increase in the percentage of tenant farms was not entirely at the expense of the proportion of owner farmers, but may have been partly at the expense of farm wage laborers (fig. 5).

The geographic distribution of this increase in percentage of tenant farmers is significant (fig. 6). In New England and the North Atlantic States tenants have decreased in relative numbers, whereas in the Cotton Belt States and the Corn Belt there has been a notable increase, particularly in the earlier decades. During the decade preceding 1920 the greatest increase occurred in the Great Plains and Rocky Mountain States. As will be shown later, in newly developed regions such as these, it is to be expected that the proportion of tenants will rapidly increase as the pioneer farmers retire or pass away.

Figure 7 shows the counties in which the percentage tenants constituted of all farmers increased or decreased between 1910 and 1920. It is evident that the number of tenant farmers has, in general, ceased to increase in most of the longer-settled sections of the East, in much of the Cotton Belt outside the Coastal Plain, in Missouri, eastern Kansas and Oklahoma, and in many counties of California.

From 1910 to 1920 the relative importance of tenant farming in the United States as a whole increased somewhat more from the point of view of farm area, either total or improved, or valuation of real estate, than from the point of view of number of farms; and the relative importance of farming by full owners decreased correspondingly. The relative importance of farming by part owners decreased slightly when measured in terms of number of farms, acreage of improved land, and valuation of real estate, but from the standpoint of total area of land in farms there was a considerable increase in the relative importance of farming by this class, owing largely to the rapid increase of part-owner farms in the Great Plains region, where the average area of farms is comparatively large (fig. 14).

By adding the land rented by part owners to that rented by tenants it is possible to obtain as far back as 1900 approximate figures of the acreage of farm land and of improved land, and also of the valuation of farm real estate operated under rent contracts.[3] The change in the proportion of the valuation of farm real estate operated by the four tenure classes between 1910 and 1920 is shown in Figure 8. Between 1900 and 1920 the acreage of rented land increased from 34.2 per cent of all farm land (excluding land operated by managers) to 39.3 per cent, while the proportion of the improved land rented increased from 37.5 to 43.8 per cent and the proportion of the valuation of the rented real estate increased from 35.4 to 43.6 per cent of the total valuation of farm real estate (Table 1).

[3] In the census of 1920, the land owned by part owners was not enumerated separately from that rented. This was done in 1900. In 1910 the figures were not published, but they have been available for the present study. Estimates have been made for 1920 by assuming that the proportion of the two classes of land are the same as they were found to be in 1910.

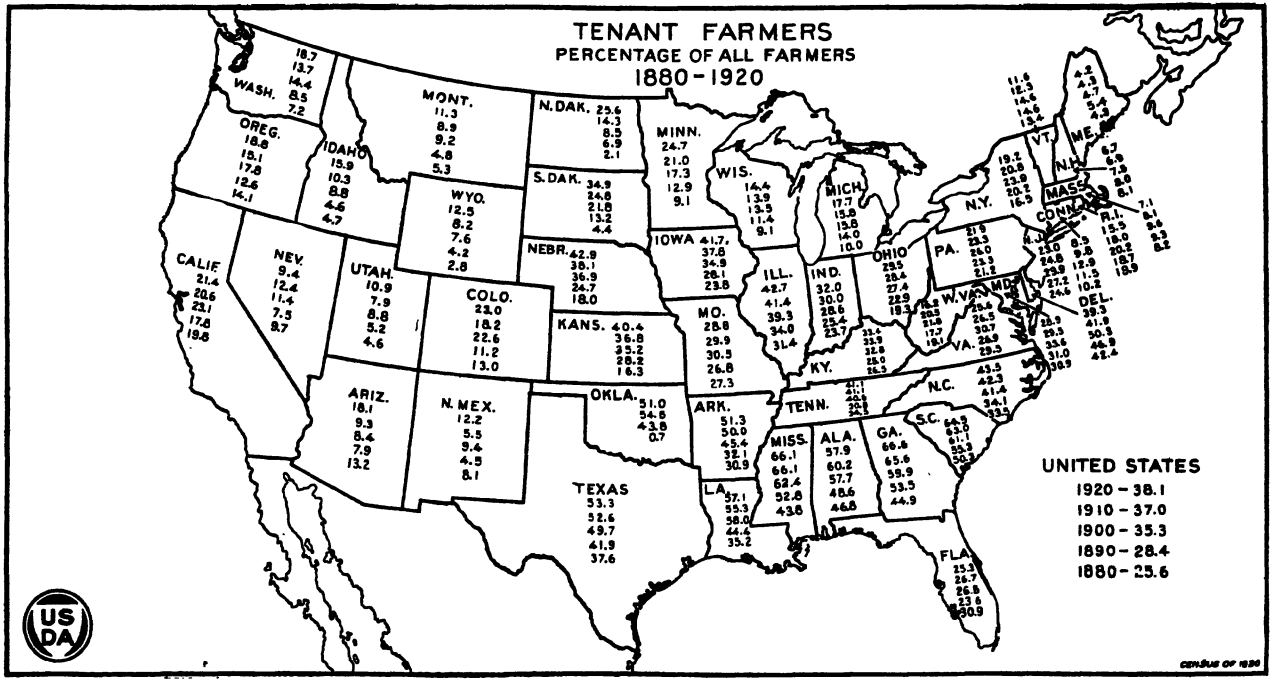


FIG. 6.—In all the States north of North Carolina and east of Ohio and Kentucky, with the exceptions of New York and Pennsylvania, the percentages of farms operated by tenants were smaller in 1920 than in 1880. In most of these States the maximum percentages were attained about 1900. In Kentucky and Tennessee there was little change after 1900. In the other Southern States, except Louisiana, the increase in the percentage of farms operated by tenants continued up to 1910. In the next decade the increase was less marked in some of the States of this group, while in others a decrease occurred. In most of the newly developed States of the West the increase of tenancy, which normally has followed the early years of settlement, was still continuing in 1920. The increase has also been notable in the Corn Belt and the wheat regions.

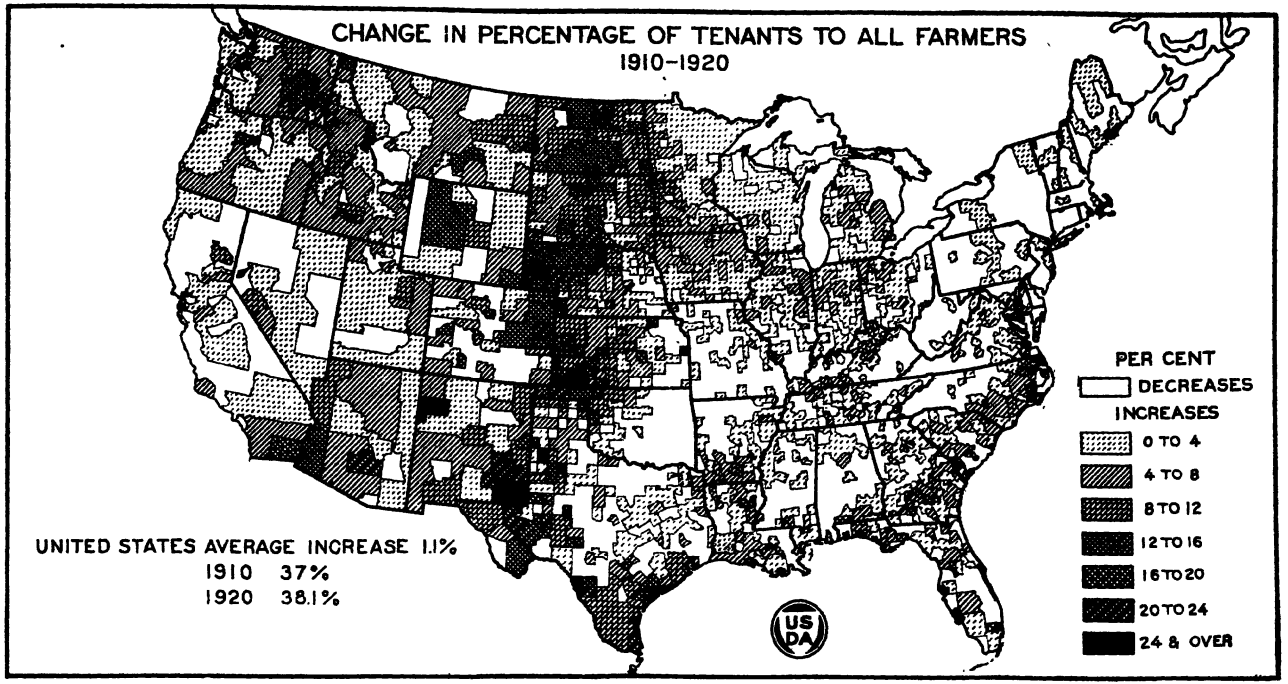


FIG. 7.—The greatest increase in the percentage of tenant farms occurred in the newly developed lands of the Great Plains and of Idaho, eastern Washington, and Arizona. There was a notable increase in certain parts of the Corn Belt, especially northern Iowa. There was also some increase in those parts of the South where there has been a comparatively recent agricultural development. In short, the map indicates that the marked increase in the percentage of tenancy was mainly in regions where the farming industry has been expanding, or where such expansion is of comparatively recent occurrence.

TABLE 1.—*Percentages of total farm area, improved land, and valuation of farm real estate (excluding that controlled by managers) operated under rent contracts, United States, 1920, 1910, and 1900.*[1]

Date.	Acreage.		Value of real estate.
	Total.	Improved.	
1920	39.3	43.8	43.6
1910	35.6	41.0	39.5
1900	34.2	37.5	35.4

[1] Since it is not known what proportion of manager-operated land is owned by the person employing the manager and what proportion is rented by him, this class is excluded from the basis in calculating the above percentages. The figures for 1920 are based in part on estimates.

VALUE OF FARM REAL ESTATE CLASSIFIED BY TENURE, UNITED STATES, 1910 AND 1920.

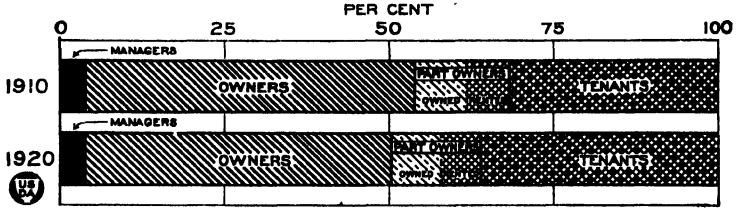


FIG. 8.—The proportion of all farm real estate rented by tenants and part owners in 1920 was 42 per cent, and the proportion of all farm land, excepting that in farms of managers, was nearly 44 per cent. Less than half the farm real estate was owned by full owners in 1920, and but little more than half was owned by full owners and part owners combined. A marked increase of land renting between 1910 and 1920 is shown when the real estate is classified in terms of valuation. The ratio of rented land to all land in the farms of part owners is assumed to be the same in 1920 as in 1910.

Geographic Distribution of the Various Classes of Tenure.

Farms operated by tenants and croppers are most numerous, absolutely and relatively, in the Cotton Belt (fig. 9). Practically all of the cotton-producing region formerly operated by negro slaves under the plantation system is now occupied very largely by negro farmers classed as tenants or croppers (fig. 10). Adjacent to this old plantation region are certain extensions of the cotton-producing area, made for the most part since the close of the Civil War and now operated largely by white tenants and owners (figs. 11 and 13), with a considerable sprinkling of negro tenants and owners (figs. 10 and 12). Taken altogether, the region of cotton production contains approximately half the tenant farmers in the United States.

There is no other large region in the United States where tenant farmers are in the majority, but there are certain counties in the Corn Belt where this is the case. In the greater part of Iowa, north central Illinois, eastern South Dakota, and Nebraska, and central Kansas, tenant farmers are nearly half the total number of farmers. Outside the Cotton Belt, the Corn Belt, and the wheat areas of the eastern plains, tenant farmers constitute, in general, fewer than 25 per cent of the number of farmers (fig. 9). Where tenants are found, they commonly occupy land well adapted to crop production, and they are especially numerous in regions where the farming systems consist largely in the production of staple crops. In dairy-

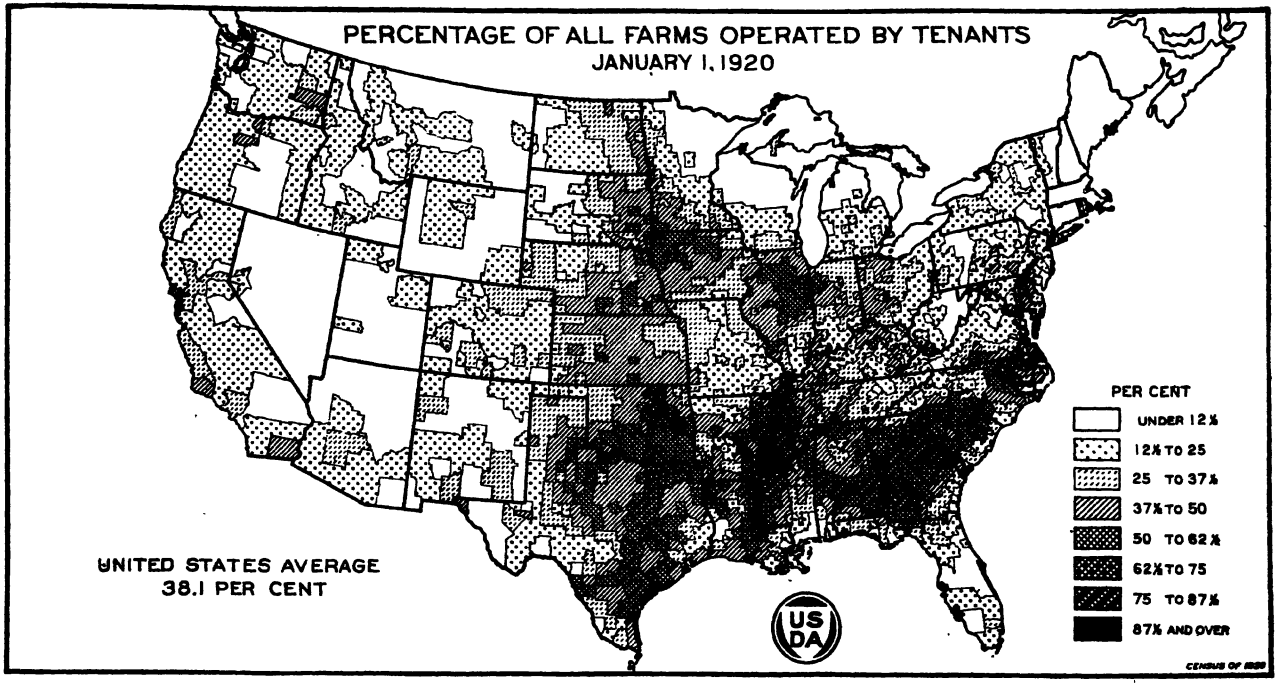


FIG. 9.—The percentage of farms rented is highest in the Cotton Belt, where tenant farms constitute usually from one-half to nine-tenths of the number of all farms. In the Corn Belt and the eastern portions of the winter wheat and spring wheat regions tenant farms comprise from one-fourth to three-fourths of the number of farms. Measured by acreage, tenancy in these regions is relatively more important and in the South less important than when measured by number of farms. Outside these areas tenants, in general, constitute less than one-fourth of all farmers.

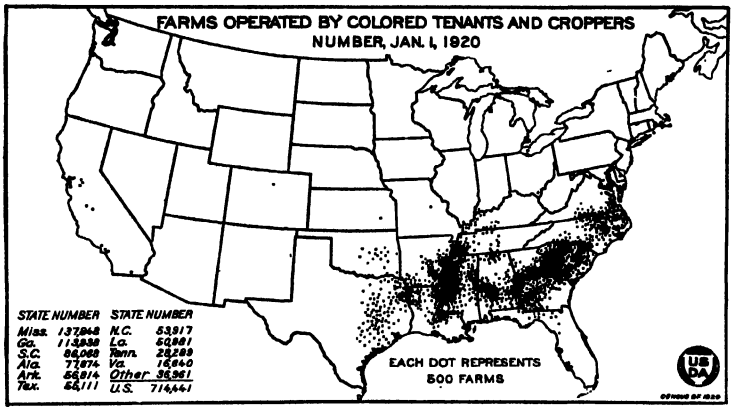


FIG. 10.—The Negro tenant and cropper farms or holdings are located mostly in the Yazoo-Mississippi Delta, in the Black Prairie of Alabama, and in the upper Coastal Plain and Piedmont of Georgia and the Carolinas—districts having the richest soils in the old South. Many of these "farms" are merely allotments to croppers on plantations, the owner of the plantation furnishing the cropper with his mule, his farm implements, and sometimes even with food until the crop is "made" in the fall and the proceeds divided between them. The dots shown in California represent mostly Japanese and Chinese tenant farmers.

ing and other forms of livestock husbandry, tenant farming is relatively less prevalent.

Owner farmers (compare fig. 9 with figs. 12 and 13) predominate (1) in New England; (2) in areas of dairy farming, notably in New York and in the southern portions of the Lake States; (3) in rough lands of the Appalachian and Ozark Mountain regions, where a relatively small proportion of the land is in crops; (4) in many areas of cut-over land, particularly in the northern Lake States, where land settlement has been recent; (5) in certain areas where farming is characterized by specialty products requiring a high

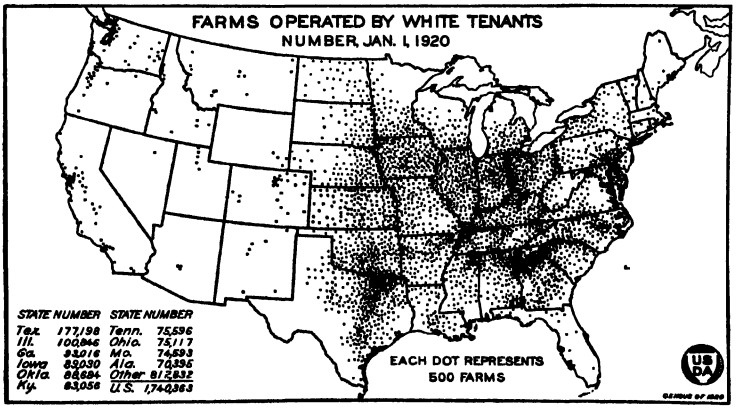


FIG. 11.—The regions of greatest density for farms operated by white tenants are the upper Piedmont of the Carolinas, Georgia, and Alabama, and the Black Waxy Prairie of Texas. In these districts negroes are less numerous than to the south and east, and the cotton is grown mostly by white farmers. A large number of white tenants are shown in Kentucky and western Ohio, especially in the tobacco districts and throughout the Corn Belt.

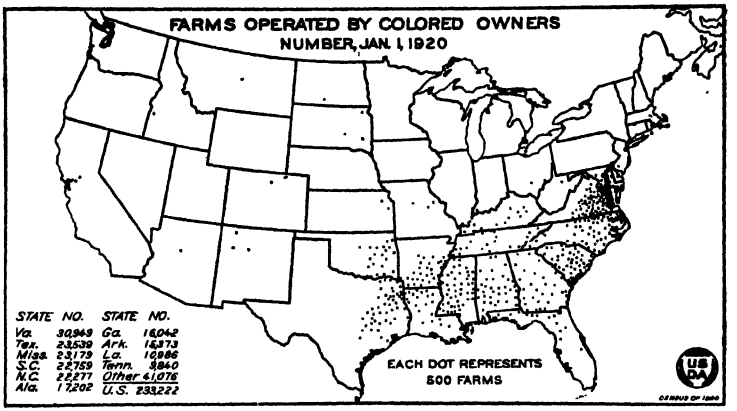


FIG. 12.—The regions of greatest density for farms operated by Negro owners are eastern Virginia, southeastern South Carolina, and northeastern Texas—all of them areas of cheap land. In Virginia there are almost twice as many farms operated by Negro owners as by Negro tenants, and in Florida the numbers are about equal; but in the Cotton Belt tenants greatly exceed owners in number (see fig. 10). There are very few Negro farmers in the Northern States, but nearly three-fourths of these farmers own their farms, as compared with one-fourth in the South. This high percentage of ownership is striking proof of the tenure progress of the Negro race in the past half century. The dots in the Western States represent mostly farms owned and operated by Indians, Chinese, and Japanese.

degree of skill in production and marketing, such as the fruit regions of the Pacific States and Florida, and trucking districts in various parts of the United States; (6) on much of the cheap sandy lands of the Atlantic and Gulf coastal plains; (7) in the rolling and less fertile parts of Tennessee and Kentucky, and southern portions of Ohio, Indiana, and Illinois; (8) in the marginal portions of the

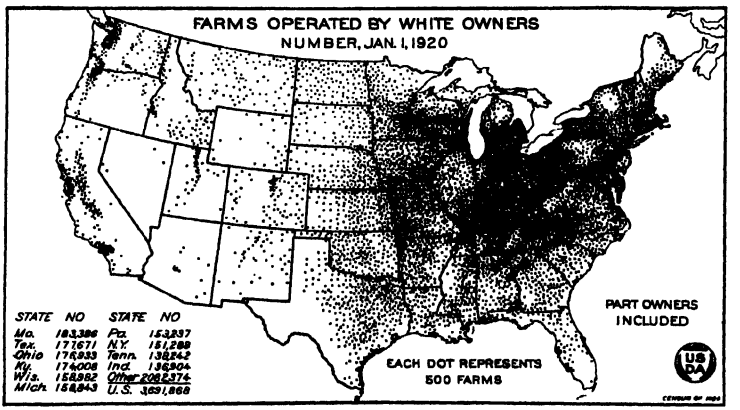


FIG. 13.—The regions of greatest density for farms operated by white owners are those occupied by the Germans of southeastern Pennsylvania and eastern Wisconsin, the mountaineers of western Pennsylvania, eastern Tennessee, and western North Carolina, by the farmers of Kentucky, Indiana, Ohio, and southern Michigan, and by the pioneers in the West. The fewer number of owner farmers in the prairie portion of the Corn Belt, as compared with the originally forested portion, is noteworthy. This is due, in part, to the larger, consequently fewer, farms, and in part to the larger proportion of tenants (see fig. 9). The thinner distribution in northern New England, the upper Lakes region, and the West is owing to fewer farms and not to a smaller proportion of farms operated by owners.

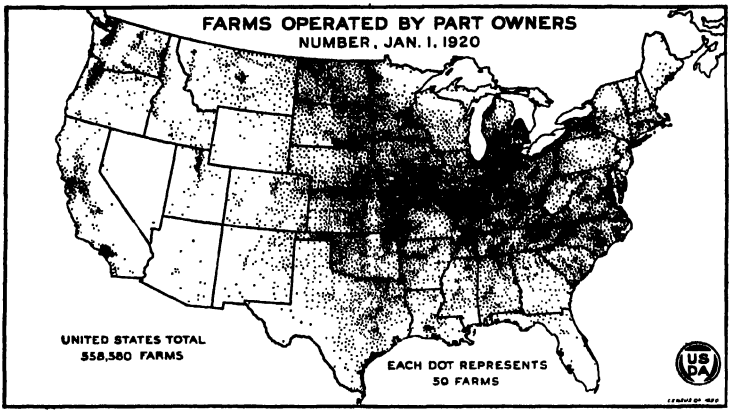


FIG. 14.—More than a half million farms were operated by part owners in 1920. They were most numerous in the States of the Middle West, especially in the marginal portions of the Corn Belt and in the wheat-growing areas of the eastern plains.

Corn Belt; (9) in the spring wheat and winter wheat areas of the plains, but with a strong tendency to decrease in relative importance in these areas (fig. 6), and (10) throughout the livestock ranching regions of the West.

Part owners are farm owners who rent additional land. Their farms are usually larger than those of owners who rent no additional land. The regions of greatest density for farms of part owners include Indiana and adjacent portions of Ohio, southern Michigan, and southern Illinois, as well as northern and western Missouri and eastern Kansas. Part owners farm a much larger proportion of the land in the West than in the East, especially in the Great Plains region, where, owing largely to failure to adapt the homestead policy to

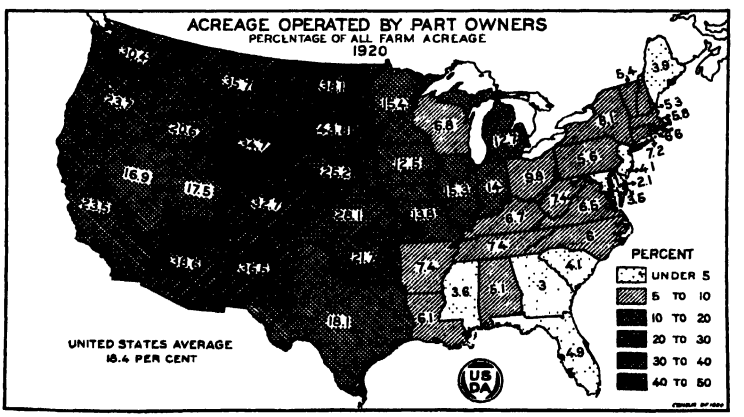


FIG. 15.—The relative importance of part owners in the western half of the country, expressed in terms of farm acreage, is much greater than is shown in Figure 14. In the Western States part owners operate from a sixth to nearly two-fifths of the farm area; in the eastern and central Corn Belt from a sixth to a tenth; and in the Eastern and Southern States less than one-tenth.

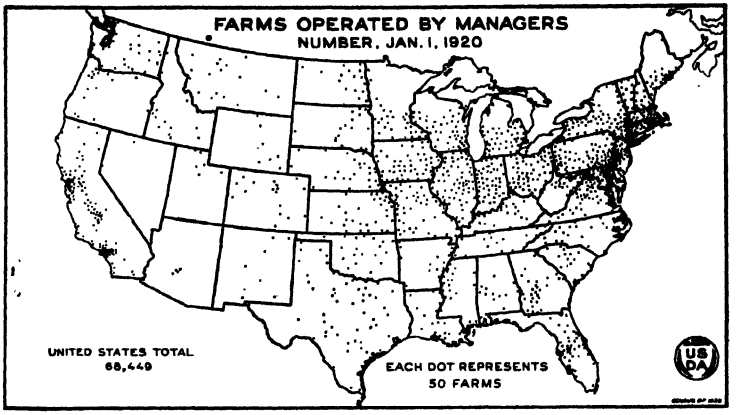


FIG. 16.—In New England and some of the Middle Atlantic States a good many of the farms operated by managers are country estates of wealthy men in the cities. Others are large truck farms, flower farms, and fruit farms.

the semiarid lands of this region, the farms as taken up were too small and many farmers have had to rent additional land (fig. 15).

Managers operate mostly large farms, notably large estates in the East and livestock ranches in the West. These farms are most numerous along the Atlantic coast from Massachusetts to Maryland, in the Corn Belt, and in California (fig. 16). However, the percentage of the total farm acreage operated by managers is largest in the Southwest where such farms comprise from one-eighth to one-third of the total farm area (fig. 17).

Statistics of land ownership and tenancy require special interpretation in the western half of the country. In this area much of the improved land is in irrigated districts, and in these districts tenancy

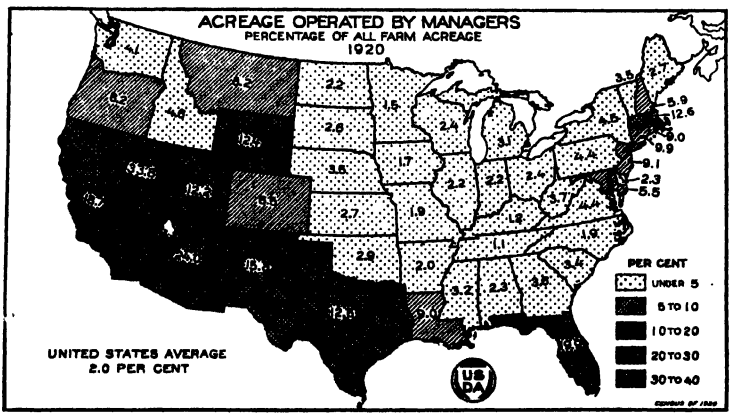


FIG. 17.—In nearly all parts of the country the percentage of the farm acreage operated by managers is much larger than the percentage of the number of farms so operated, because manager-operated farms are larger than other farms. This is especially the case in some of the New England and Middle Atlantic States; in Florida, Louisiana, and Texas; and in most of the Mountain and Pacific States. In fact, the relative importance of manager-operated farms in the West is probably greater than the map indicates because of the inclusion of land not reported in the census. (See pp. 521–522.)

has developed with notable rapidity during the last few years. However, most of the rented land in this section is unimproved grazing land.

In the Rocky Mountain and Pacific States, part owners in 1920 rented about 1 acre of improved land to every 3 acres rented by tenants. Part owners operated under lease almost as much improved land as did full tenants in Montana, Wyoming, and Utah. Part owners and tenants rented over half the improved acreage in Washington and over a third in California, Oregon, and Colorado. These two classes of operators rented over 95 million acres of unimproved land in farms in the 17 Western States, and in 10 of these States part owners rented more than did tenants (fig. 18). Managers operated about 7 per cent of the improved land in the two western divisions referred to, but the area of both improved and unimproved farm land operated by managers in 1920 was 11 per cent of the re-

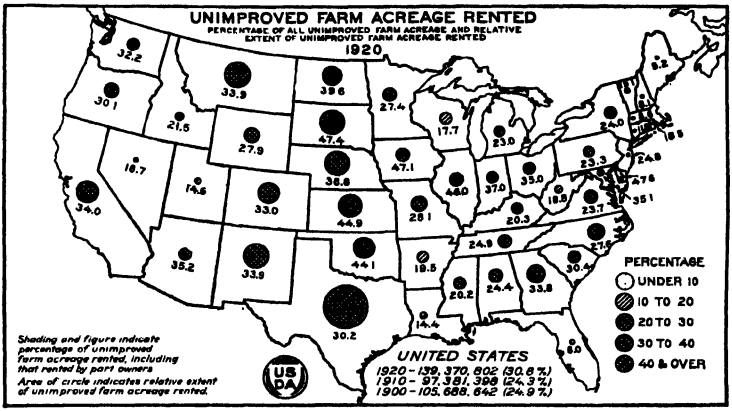


FIG. 18.—Over two-thirds of the unimproved farm acreage under lease is in the 17 Western States, the 6 stretching from North Dakota to Texas containing two-fifths of all such land. In the half of the United States lying west of meridian 100 nearly all of the unimproved farm land under lease is used for grazing. In the North Central States unimproved land is rented in about the same percentage as improved land. In the Southern States, however, the proportion of unimproved acreage that is under lease is much less than the corresponding proportion for improved land. It should be noted that the rented acreage includes that rented by part owners.

ported area of farm land and was as high as one-third of the total farm area in Nevada (fig. 17).

The tenure of unimproved land in the West is not shown adequately by census reports. The census definition of a farm appears to have been so applied as to leave out of account much of the land leased for grazing by Indians under the guardianship of the United States Government, by State governments and institutions, and probably by railways and other large owners (figs. 21, 22, and 23). Statistics from other than census sources as to the amount of land leased by Indians, railways, and States indicate in at least one State an acreage over three times that which the census classifies as leased farm land.

When allowance is made for these factors in the land tenure of the Western States, for upwards of 150 million acres of Federal public land used as free range, and for large areas of national and State

forests used under permit systems or otherwise (figs. 19 and 20), it is apparent that the proportion of farm and ranch land in the Western States which is owned by the operators is much smaller than is indicated by census statistics.

North Dakota, South Dakota, Nebraska, and Kansas are semiarid in their western portions and humid in their eastern portions. Ten-

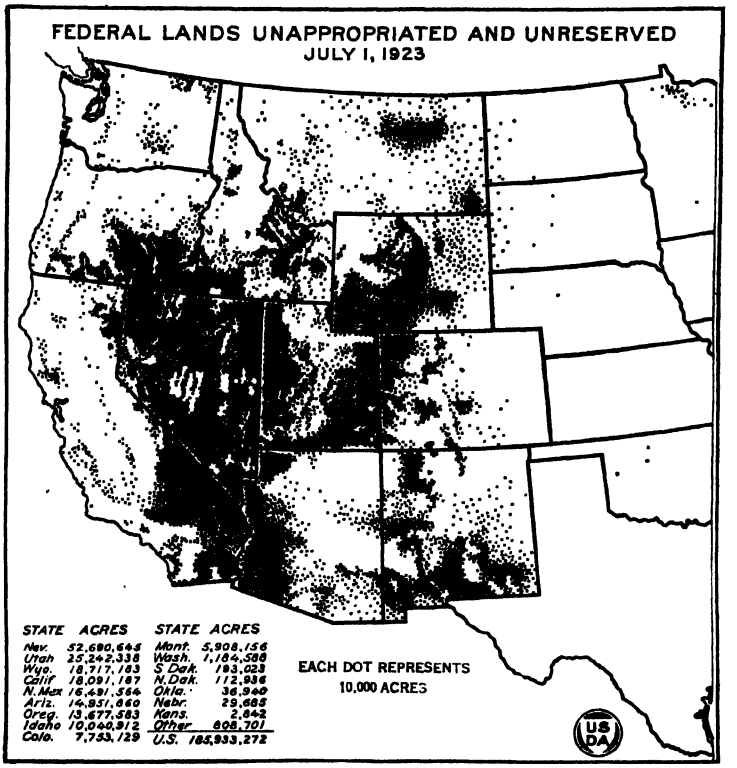


FIG. 19.—About 186,000,000 acres of unappropriated and unreserved land remained in the Federal public domain on July 1, 1923. Over 185,000,000 acres were in the States shown above. In some counties of Wyoming, Nevada, and Oregon over 60 per cent of the land area is still in the Federal domain and open to homesteading. However, there is but little remaining land in the public domain that is suitable for crop production. The greater part is used for grazing, though without the regulation exercised in the national forests. Owing to this lack of control the land is overgrazed and the carrying capacity is deteriorating rapidly. In Texas all public lands were reserved to the State at the time of its admission to the Union.

ure conditions in the western counties of these States are not widely different from those existing in the semiarid portions of the Rocky Mountain and Pacific regions.

Causes of the Development of Tenant Farming—I. The Conditions That Cause Land to be Owned by Landlords.

The amount of farm land rented at any time is a result of conditions in what we may call the rent market. Our problem is to explain why land is offered in this market for rent, and why men, either

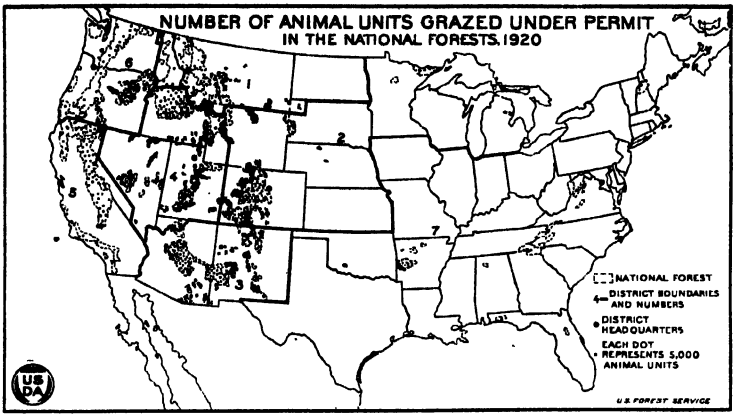


FIG. 20.—Out of 156,000,000 acres in national forests, about 110,000,000 acres, practically all in the Western States, is included in the grazing allowances. On this acreage nearly one-fourth of the livestock, excluding work stock, in the West is grazed during the pasture season. The percentage of grazed land is lowest where the forests are densest. The map does not take account of the animals grazed free, which are 10 per cent as numerous as the animal units paid for and shown here. Permits issued by the Forest Service for grazing livestock on national forest lands do not grant the permittees a tenure in the land. They allow many farmers, however, to extend their grazing operations in much the same way as if owning or renting this land.

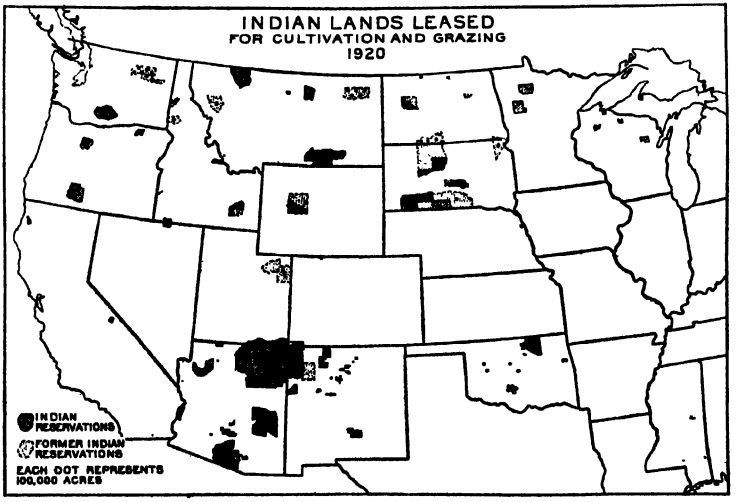


FIG. 21.—In 1920 approximately 17,000,000 acres of Indian land, mainly in the western half of the country, were leased for cultivation and grazing under the auspices of the Federal Government. The amount of such land reported for the year ended June 30, 1923, was about 15,000,000 acres. Of the area thus under lease in 1923 about 60 per cent consisted of unallotted or tribal lands. Seven-eighths or more of the total area leased was used for grazing. Practically all of the leases were for cash. This information is made available through the courtesy of the Commissioner of Indian Affairs.

through necessity or from preference, are willing to rent land for the purpose of farming it. Briefly, who are the landlords [4] and who are the tenants? What conditions determine the supply of land offered for rent in the rent market and the extent of the demand for such land?

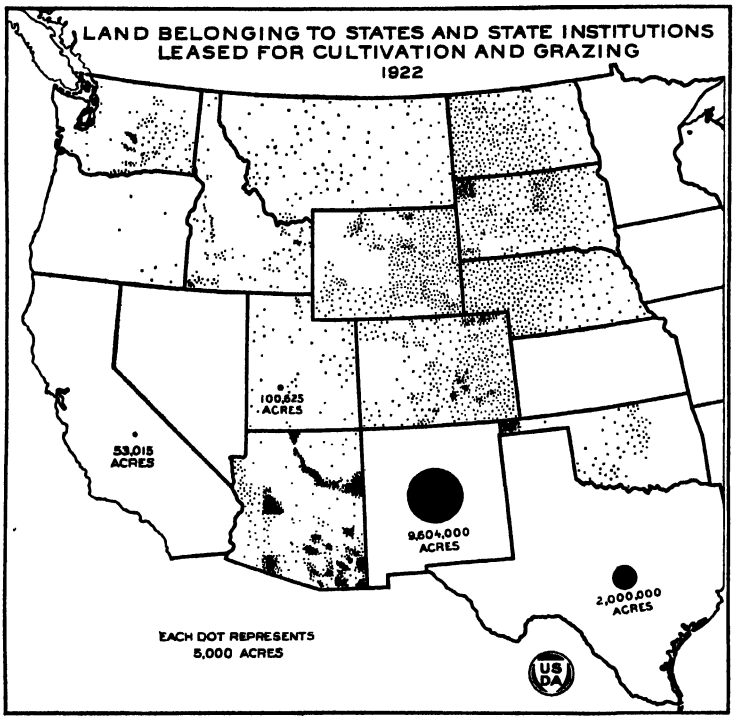


FIG. 22.—Practically all of the State-owned lands leased for cultivation and grazing are in the 17 Western States, amounting to about 30,000,000 acres. In Texas, New Mexico, and California the available information does not admit of the location of the land by counties. In Texas the 2,000,000 acres shown belong to the State university. The information shown in the map was obtained partly from published reports and partly through the courtesy of State officials.

Public Ownership and Leasing of Land.

A good deal of leased land in the United States is owned by public agencies. Broadly speaking, it has not been the policy of the Federal Government to lease its land to the users. At present practically all of the public land suitable for farming has been disposed of, but there still remains an area of about 186 million acres, largely consisting of arid land in the Southwest and Inter-Mountain regions, most of which is used free of rent as a grazing commons by cattle and sheep graziers [5] (fig. 19). The privilege of grazing livestock on approximately 110 million acres in the national forests is granted to

[4] The terms "landlords" and "landlordism" are not used in an invidious sense. Landlordism is employed merely as a convenient expression to designate the system of letting land to those who will use it. The term landlords is used to indicate individuals or corporations who let land to others, whether on a large or a small scale.

[5] It is believed that this promiscuous and unregulated use should be replaced by a system of regulated grazing. (See pp. 404, 405, and 505.)

private individuals under the permit system (fig. 20). Since the permit technically is not a lease, these lands naturally do not appear in our census statistics of rented land.[6]

As trustee for its Indian wards the Federal Government also acts as landlord for a large number of tenant farmers. Land in the Western States administered by the United States in behalf of Indians amounted in 1923 to 15 million acres leased for agricultural and grazing purposes (fig. 21).

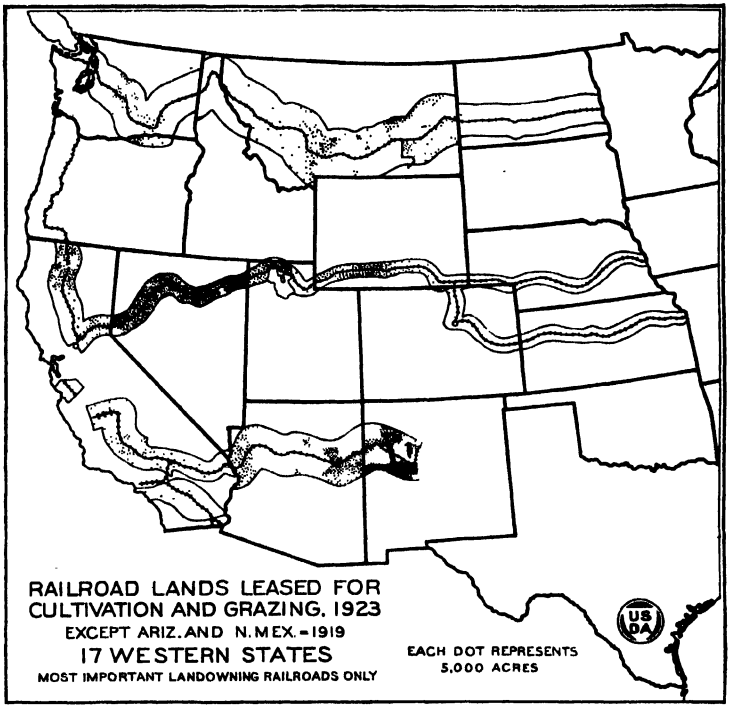


FIG. 23.—Approximately 17,000,000 acres of land leased for cultivation and grazing is owned by the principal landowning railroads in the 17 Western States. Nearly all of this area is leased for grazing. The information was made available through the courtesy of the officials of the railroads concerned. Outside of the area shown above it is probable that less than 3,000,000 acres is leased for cultivation or grazing by other railroads in the United States. For location see Farmers' Bulletin No. 1271, page 43.

The States, particularly those in the western part of the country, as noted above, are large landlords, renting approximately 30 million acres (fig. 22). West of meridian 100 these lands are leased mostly for grazing and haying purposes.

Private Ownership and Leasing of Land.

Some of the railroads, particularly in the western half of the country, are also large landed proprietors, principally as a result of railway land grants. It has been their policy to use their holdings to

[6] The grant does not involve the exclusive or assured use of a specific area but only the right to graze a certain number of stock under carefully drawn regulations and for a certain charge per head. This right is revocable.

induce settlement and to await the increment in value that comes with settlement. Pending this development, they have been leasing in recent years approximately 17 million acres of their land, mostly to stockmen (fig. 23).

With the exception of the West, most of the land leased for agricultural use in the United States is privately owned. This land is nearly all in farms and is used for the production of crops more largely than for grazing. The reasons which cause farm owners to let part or all of their land deserve brief notice.

TEMPORARY INABILITY OF PRIVATE OWNERS TO OPERATE THEIR LAND.

Even if we suppose a newly settled region in which every farmer owns his land, it is clear that this condition could scarcely continue. Some operators might desire a vacation or be compelled on account of illness or business to leave home for more or less prolonged absences, during which they would be likely to offer their land for rent pending their return. In other cases, operating owners who have recently acquired new tracts might prefer to allow the former operators to remain in charge for a time under rent arrangements while the new purchasers adjust their business affairs.

Still other circumstances may make it necessary for a farm operator to reduce the size of the area operated. It may be impaired health; the fact that his sons have left home and can not adequately be replaced by hired laborers; or the pressure of other business interests. It is not always practicable to sell the excess acreage, for it may be an important part of a definite farm unit or it may be that none of the adjacent farmers is ready or able to purchase the tract. It is probable that a good deal of the land rented by the class of part owners is made available by some of these or similar conditions.

CONDITIONS WHICH CAUSE LANDOWNING FARMERS TO LEAVE THEIR FARMS PERMANENTLY.

All farmers must ultimately leave their farms permanently through change to other business, retirement, or death. A certain amount of renting will inevitably result from such changes.

Let us consider first the circumstances arising from death. The settlement of estates sometimes involves long periods due to litigation, to the fact that all of the heirs are not yet of age, and to other causes. During such intervals the executors may rent the estate, frequently to one of the heirs. Similarly, it often happens that it would be necessary to divide a farm into several uneconomic units in order to make a fair division among the various heirs. The problem is frequently solved by arranging for one of the heirs to rent the farm from the others or by letting the farm to a third party and dividing the rental among the heirs.

Even when an estate passes to a widow or heir who desires to sell it, immediate sale is not always feasible for some of the reasons hereafter mentioned (page 528), and temporary renting is likely to result.

It is clear that the larger the percentage of native, farm-born population in cities the larger will be the proportion of cases in which the change in the ownership of farm land necessitated by death will result in the title passing by inheritance, marriage, or otherwise, to non-farmers. The large increase in proportion of urban

population in the United States has greatly increased the chances that the heirs of deceased farm owners will be persons engaged in non-farming occupations, and this probably has been intensified by the movement of the children of farmers into other occupations.

In periods of agricultural depression considerable areas of farm land pass into the ownership of creditors. The laws of many States give the debtor a privilege of redemption lasting from four months to two years, and during this interval of uncertainty the land is likely to be offered for rent, even though the ultimate purpose of the creditor is to dispose of it by sale.

Many farmers retire more or less from active farming in later life (fig. 24). Sometimes the severance from active connection with farming is sudden and complete, but more generally it is gradual, and justifies the expression, "the retreat from the land." With the approach of age or infirmity the experienced farmer is likely to rent part or all of his land to a tenant, retaining supervision over the

AGE OF MORTGAGE-FREE OWNER FARMERS; UNITED STATES, 1920; AND AGE AT WHICH LANDLORDS 40 YEARS OLD AND OVER IN 1920 RETIRED FROM FARMING, CENSUS OF 1920.

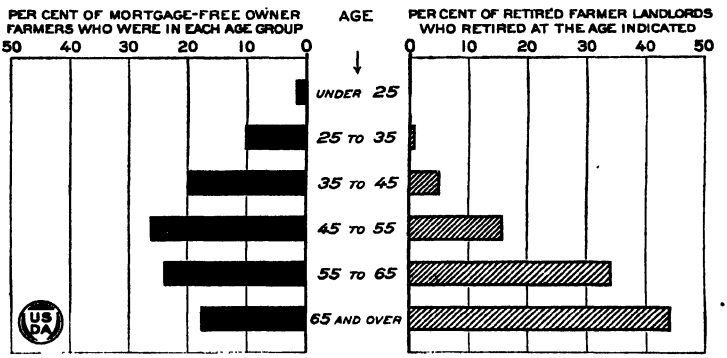


FIG. 24.—Death and retirement combined reduce the proportion of owner-farmers in age groups above 55 years. The number of farmers retiring increases with each successive age group. The left-hand portion of the graph is based on the 1920 census, while the right-hand portion is based on reports from 7,583 landlords received by the Bureau of Agricultural Economics, Division of Land Economics.

details of the business. If his holdings are large he is likely to cease direct operation gradually by increasing from time to time the area rented. This is suggested by Figure 25, which indicates that in the regions where the process of gradual retirement is characteristic the percentage of farms operated by men of 55 years and over decreases with the increase in the size of farms. This kind of landlordism is a very large factor in most of the important farming regions of the United States where tenancy is prevalent. (Fig. 34).

Frequently retiring farmers rent their farms to sons or other relatives who will ultimately inherit all or part of the property. This method of associating a prospective heir with the original owner of the business under the nominal and temporary status of a tenant accounts for a good deal of renting of farm land in some sections of the country. In a recent study of nearly 57,000 tenants widely distributed throughout the country it was found that 23 per cent were

related to landlords, the percentage ranging from 12 in nine Southern States to 36 in five States of the North Central group. (Fig. 26).

CONDITIONS WHICH CAUSE OWNERS OF LAND TO RETAIN OWNERSHIP WHEN THEY DO NOT OPERATE IT.

It is important to determine why owners of farms, when they cease to be active operators, retain the ownership of their land and let it to tenants rather than sell it. Closely related to this is the

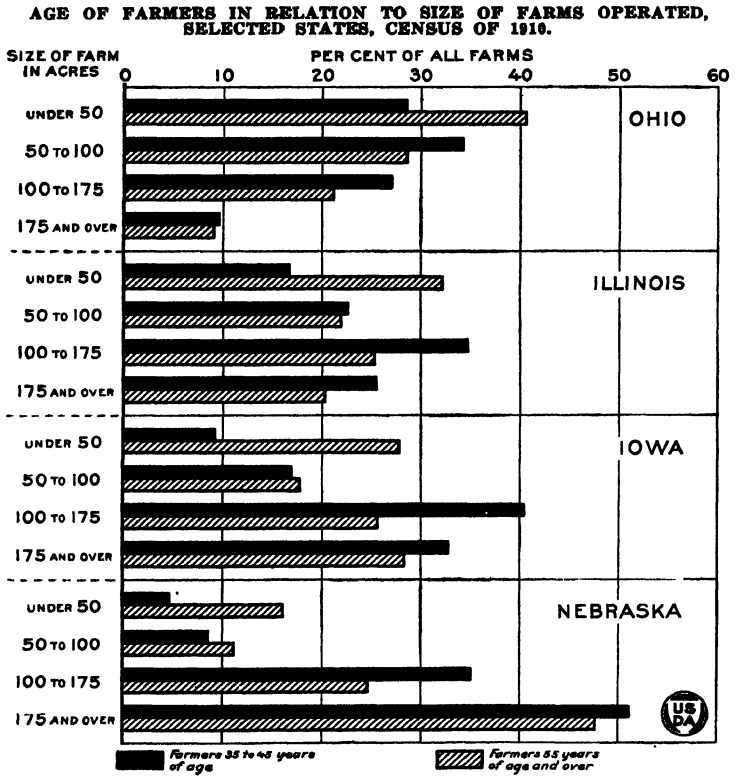


FIG. 25.—Men who are not beyond middle age usually prefer the larger-sized farms, and rent such farms if they can not buy. Elderly farmers who own the larger farms find it possible to retire and live on the rent which younger farmers are willing to pay for the use of the larger farms. A phase of the retreat of elderly farmers from the land is their more general occupancy of the smaller farms, these farms making less demand on their bodily vigor than farms of the larger sizes.

explanation of why others buy farm land which they do not intend to operate.

In the first place, it is not always possible to sell land immediately on favorable terms. The land market may be sluggish. In many rural communities opportunities for sale at satisfactory prices are infrequent. In parts of the South the land market is rather narrowly restricted to the landlord class, for most of the tenant farmers have neither the means nor the credit to purchase a farm.

There are also motives which may cause the farmer or his heirs to retain ownership from preference. These motives may be senti-

mental, as, for instance, attachment to an old homestead and to the associations of the community; they may be social, as, for instance, the desire to acquire the social prestige attached to land ownership; they may be economic or financial; or there may be some combination of the several classes of motives. In this country economic motives are by far the most important, and later will require more detailed consideration.

TENANTS WHO RENTED FARMS OWNED BY RELATIVES; PERCENTAGE OF ALL TENANTS ON 56,845 FARMS IN 24 STATES, 1920.

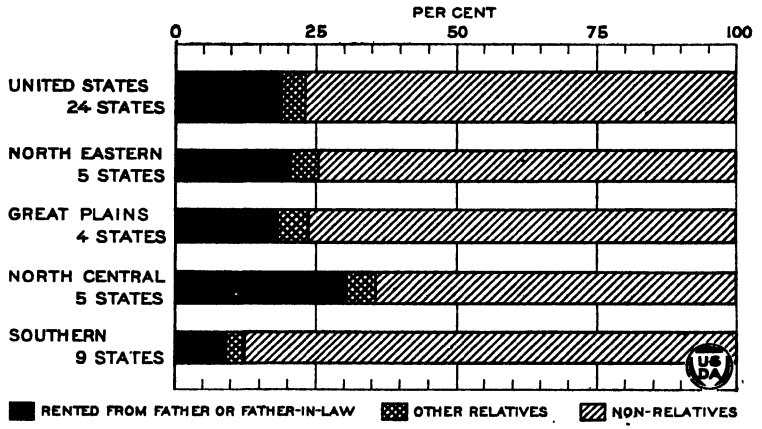


FIG. 26.—Twenty-three thousand landlords reported their degree of relatedness to approximately 57,000 tenants. For the United States as a whole about 23 per cent of the tenants were related by blood or marriage to the landlord, most of them being sons or sons-in-law. The proportion is lowest in the South and highest in the North Central States, in some of which it is as much as 40 per cent.

Concentration of Land Ownership.

The concentration of land ownership in large holdings is favorable to landlordism and tenancy. It is true, the owner may operate the entire farm by means of hired labor, but such operation has many economic disadvantages. The most important of these are the uncertainty of the labor supply; the large element of risk involved in incurring heavy wage expenditures in anticipation of a return so precarious and uncertain as that from farming; and the difficulties of directing adequately a large labor force in an industry so ill adapted to standardization and routine.

The landlord may solve the problem by finding tenants capable of supplying the operating capital and the ability to conduct farm operations without supervision. However, if the tenants are unable to supply the necessary capital or direction, it will be necessary for the landlord or some other agency to furnish one or both of these important factors; and, very generally, if operating capital or means of subsistence must be advanced, the advancer considers it desirable to maintain more or less supervision over the business.

CONCENTRATION OF OWNERSHIP OF FARM LAND IN THE SOUTH.

The conditions just described prevailed in the former plantation regions of the South at the close of the War between the States. The land was owned in holdings considerably larger than would be

THE PLANTATION REGION OF THE UNITED STATES.

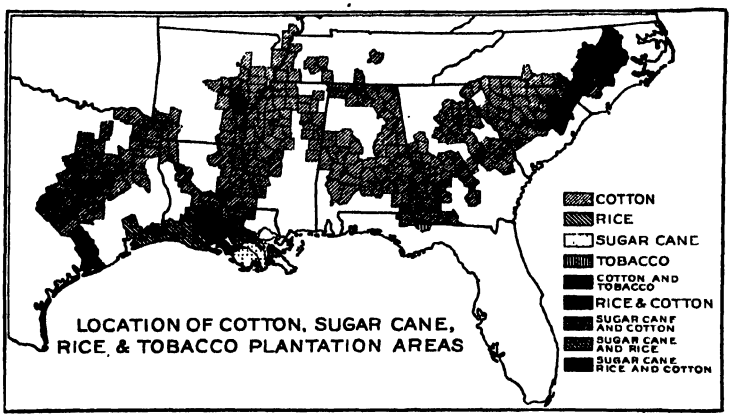


FIG. 27.—For the most part the plantation area of the South is identical in location with the area of the antebellum plantation system. The plantation system occupies the regions of more fertile soils. The typical plantation is operated as a comparatively large farming unit, mostly by means of hired laborers and croppers under close supervision. However, not infrequently share tenants proper, standing renters, and cash renters, under more or less supervision, are found on plantations. In the alluvial lands of the Mississippi River the plantation units are, in general, larger than in other parts of the South, and are also characterized by the most intensive supervision. The regular decennial census does not recognize plantations as statistical units, but a special census in 1910, on which the above map is largely based, showed 39,073 plantation organizations.

needed for a "family farm." The newly emancipated laborers not only lacked operating capital but even the means of livelihood while growing the crop. Furthermore, they were without experience and unaccustomed to self-direction. There was no banking system to supply the needed capital and many of the planters were lacking in

PERCENTAGE OF RENTED FARMS OWNED BY LANDLORDS HOLDING TITLE TO SPECIFIED NUMBERS OF RENTED FARMS: UNITED STATES, SOUTHERN STATES, AND NORTH CENTRAL STATES, CENSUS OF 1900.

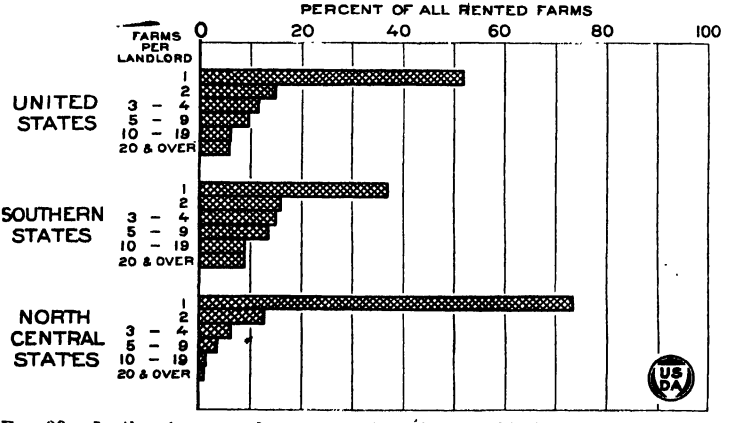


FIG. 28.—In the above graph concentration of ownership is shown in terms of number of farms, with evidence of heavier concentration in the Southern States, due to the plantation system. The concentration of ownership measured by acreage and valuation was less than when measured by number of farms. The census of 1900 affords the only complete information for the country as a whole concerning the concentration of ownership of rented farms.

LANDLORDS OWNING TWO OR MORE RENTED FARMS; PERCENTAGE OF ALL LANDLORDS, AND PERCENTAGE OF ALL RENTED FARMS OWNED BY THEM, 1920.

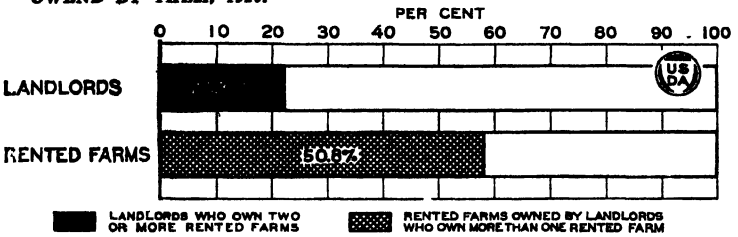


FIG. 29.—Landlords owning two or more rented farms each comprised a fifth of all landlords, but owned a little over half of all the rented farms in 1920. The graph is based on a special study of 275,000 rented farms in selected counties of 24 States made by the Bureau of Agricultural Economics, Division of Land Economics. In the case of this figure and the four figures immediately following, the word "farms" is used in place of the words "ownership parcels." As shown by a study of 106,000 of the above parcels, all but 7 per cent are in themselves complete farms.

money capital, making it difficult to set up a wage system. The system of marketing had largely developed to serve the needs of large plantations rather than small farms. Moreover, the freedmen were restless and unstable as hired laborers.

The large landowners resorted to the policy of giving the laborers a share of the crop instead of a fixed money wage, supplying operating capital, the means of livelihood during the making of the crop, and a degree of supervision almost as close as that which they had formerly exercised over the slaves. When the landowner was unable to supply operating and subsistence capital, this function was assumed by local merchants, who also supplied supervision through hired managers or riding bosses. This post-bellum plantation system has continued in most of the old plantation regions until the present (fig. 27). Each decennial census has shown a decrease in the average size of Southern farms, owing in part to the division of large plantations into groups of cropper or tenant farms, frequently without any change in the actual operation of the whole; and, correspondingly, each decade up to 1910 has shown a large increase of so-called tenant farms. The results of the census of 1920 seem to indicate that these tremendous changes have either reached their approximate completion or else have temporarily been suspended.

LANDLORDS OWNING FIVE OR MORE RENTED FARMS, PERCENTAGE OF ALL LANDLORDS, AND PERCENTAGE OF RENTED FARMS OWNED BY THEM, 1920.

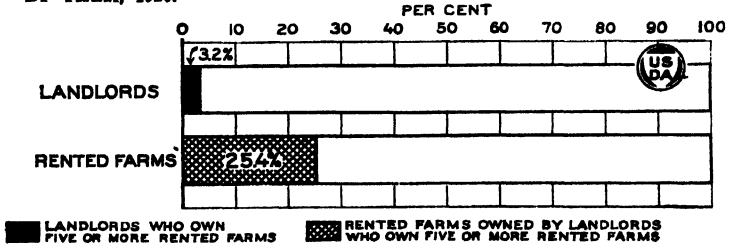


FIG. 30.—The special study of the ownership of 275,000 rented farms, mentioned in Figure 29, showed that in 1920 a little more than one-fourth of all the rented farms were owned by a little less than one-thirtieth of the landlords. Most of this concentration of ownership was in the southern plantation region.

In certain respects these changes have tended to emphasize unduly the national problem of tenancy. One result has been the numbering as tenants of over a half million persons who are not independent farm operators and to class as their landlords persons who are the actual operators of the so-called tenant farms. Furthermore, the nominal increase in the number of tenants really represents what in many respects comprises a higher status for the so-called tenants under the plantation system than they formerly occupied as hired laborers, and in still earlier times as slaves.

PROPORTION OF RENTED FARMS OWNED BY LANDLORDS HOLDING FIVE OR MORE RENTED FARMS; AREAS IN NORTHERN AND SOUTHERN STATES COMPARED, 1920.

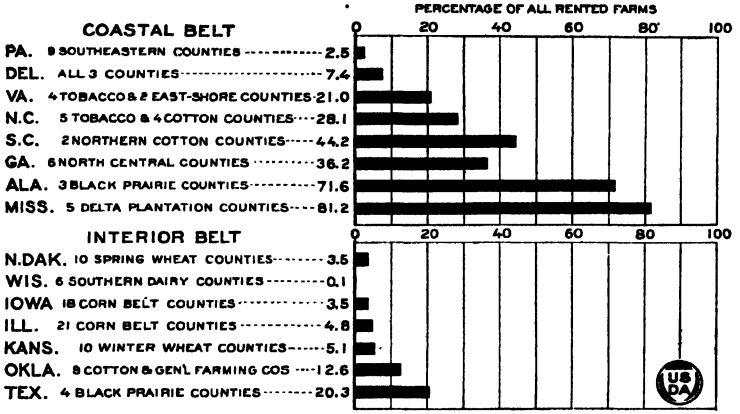


FIG. 31.—Outside of the South, rarely more than 5 per cent of the rented farms belong to landlords who own five or more rented farms each. In the South the concentration of ownership is much greater, ranging as high as 80 per cent in the Yazoo Delta. The source of the information is the same as for Figure 29.

The plantation system in the South is largely responsible for the concentration in ownership of farm land for the nation as a whole (figs. 28 and 31).

TREND IN CONCENTRATION OF OWNERSHIP.

There has been no census report showing the concentration of farm ownership since 1900. However, a study of the ownership of 275,000 farm parcels, based on reports from tenants listed in the census schedules for 1920, affords more recent information for selected regions where tenancy is prevalent. In general, a comparative study of the 1900 and 1920 statistics does not indicate any great change in the degree of concentration for the nation as a whole. (Compare fig. 28 with figs. 29 and 30.) In both periods about half the rented farms were owned by landlords owning only one farm. In 1900 nearly 15 per cent of the total rented farm acreage and 22 per cent of the farms were owned by landlords who held title to five or more rented farms. In 1920 about 25 per cent of the farms in selected regions studied were thus owned.

There are several reasons why there has been no pronounced trend toward increased concentration of farm-land ownership. The rapid development of American industrialism has tended to attract large capitalists to the cities and to prevent them from acquiring large

farming estates for investment. The laws of inheritance in American States are based on the principle of equal partition among children, as in France, subject to the rights of the widow; and the practice of bequests appears to have been strongly influenced by the laws of inheritance. Up to the present time there has been no widespread tendency for farm land to be excessively subdivided, as in France, because of the practice of probate courts in this country to effect various kinds of settlements that pass property to successors in units suitable for economic operation. On the other hand, as available farm land becomes scarcer and the demand for it more intense these inheritance laws might tend toward excessive subdivision, as in France. To be sure, other forces might give rise to increased concentration.

CONCENTRATION OF OWNERSHIP OF LAND NOT IN FARMS.

The greatest concentration of land ownership in the United States occurs in the case of land not in farms and consists of large holdings by railways, acquired through earlier grants in aid of construction, and the large holdings of timber and mining companies. Most of these lands are not greatly in demand for farming. Except for the tendency, already noted, to rent temporarily to stockmen for grazing purposes, the policy of these large holders, for the most part, is to hold their lands for ultimate sale in small tracts to settlers, or to other concerns which intend to market the land to small purchasers.

RESIDENCE OF LANDLORDS.

To what extent do American landlords live sufficiently near their farms to exercise adequate control over the property? For the country as a whole information on this point is available only for 1900. At that time 78.8 per cent of rented farms were owned by landlords who resided in the same county in which the rented

PROPORTIONS OF RENTED FARMS OWNED BY LANDLORDS RESIDING IN THE SAME COUNTY, AN ADJOINING COUNTY, OR MORE REMOTE LOCATIONS, 1920.

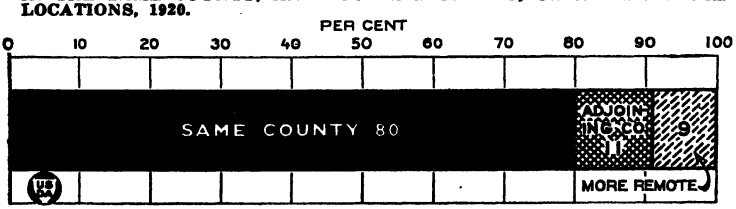


FIG. 32.—Only 9 per cent of 275,000 tenant farms in 24 States were owned by landlords who resided neither in the same county nor in an adjoining county. It is probable that this 9 per cent measures approximately what we may call absentee landlordism; that is, the cases where the owner's residence is too remote to permit frequent visits to the property, although in some of these cases the owner is adequately represented by a resident manager or local agent. Source of data is the same as for Figure 29.

farms were located.[7] In the special study of 275,000 tenant farms in 1920, previously mentioned, it was found that 80 per cent of the rented farms were owned by landlords who resided in the same county, and an additional 11 per cent by landlords residing in

[7] The census shows that 75.2 per cent of all tenant farms were owned by landlords definitely reported to reside in the county where the farms were located. However, 4.5 per cent were owned by landlords of unreported residence. By prorating this 4.5 per cent, the total percentage is changed to 76.8.

counties adjoining the one in which their farms were located. This leaves only 9 per cent of the rented farms owned by landlords living at greater distances (fig. 32).

The proportion of cases in which landlords were remote from their farms is found to be considerably greater in the North and

PLACE OF RESIDENCE OF LANDLORDS OF RENTED FARMS.

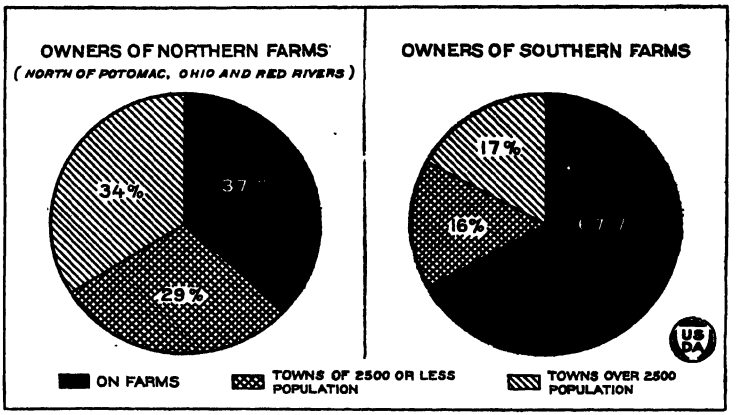


FIG. 33.—In the Northern States more than a third of the landlords reside on farms, while in the South the proportion is more than two-thirds. In the North about half of the landlords living in cities and villages are retired farmers (fig. 34). The graph is based on returns from 23,000 landlords in 24 States to a special inquiry made by the Bureau of Agricultural Economics, Division of Land Economics.

West than in the South. For instance, in a group of counties in Illinois 25 per cent of the rented farms were owned by landlords who lived outside of the same counties, while 10 per cent were owned by landlords who lived outside of the same or adjoining counties,

OCCUPATIONS OF LANDLORDS OF RENTED FARMS.

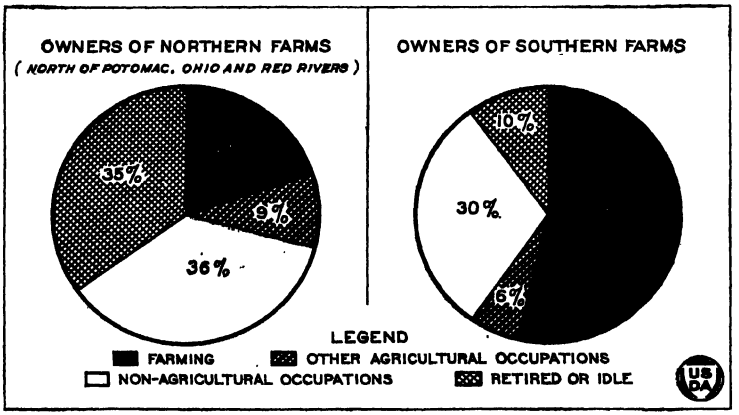


FIG. 34.—The proportion of landlords still classed as farmers is much larger in the South than in the North, but if retired farmers, many of whom exercise supervision over their rented farms, are considered farmers, the difference is not so great. About a third of the farm landlords of the two regions appear to be engaged in nonagricultural occupations. This figure is based on reports from 23,000 landlords, mentioned in Figure 33.

whereas in the Yazoo Delta the corresponding percentages were 12 and 5. Furthermore, the percentage of cases in which landlords were remote from their farms is higher in some of the more recently developed farming regions than in some of the older farming regions. Thus, in eastern North Dakota 40 per cent of the tenant farms were owned by landlords not residing in the same county, and the proportion is nearly as large in central Kansas and in Oklahoma. In the Middle Atlantic States the percentages for six groups of counties varied from 13 to 26; in southern Wisconsin, the percentage was 19; in western Ohio, 21; in Illinois, 25; and in Iowa 28.

The larger proportion of landlords remote from their farms in the newly developed regions of the West is related to the Federal land policy in the distribution of the public domain and explains in part why States so recently settled quickly develop high percentages of tenancy. The throwing open of large tracts of farm land to homesteading attracted many people whose principal concern was to acquire a valuable farm property but with no intention of permanent residence on the farm. For instance, Oklahoma was settled by homesteaders little more than two decades ago, yet, in 1910 and 1920, tenant farms were over 50 per cent of the total number of farms.[8]

In the North and West a much larger proportion of the landlords reside in cities and villages, nearly two-thirds in fact, whereas in the South about two-thirds of the landlords live on farms (fig. 33).

OCCUPATIONS OF LANDLORDS.

The proportion of landlords who reported farming as their regular occupation was smaller than the proportion residing on farms (fig. 34). The proportion actively engaged in farming was more than twice as large in the South as in the North, emphasizing the conclusion that in the South landlordism is largely a phase of plantation operation, while in the North it is more largely a phase of retirement or retreat from the land. Among northern landlords considerable difference is indicated between those in the Corn Belt and Middle Atlantic States and those in the Dakotas and Kansas. In the latter areas the landlords are engaged in farming operations in a larger proportion of cases than in the States farther east.

FARMING EXPERIENCE OF LANDLORDS.

To what extent are landlords men of farming experience? Inquiry on this point from upwards of 20,000 male landlords revealed the fact that only 8 per cent of them had never been engaged in any kind of farming occupation (fig. 35).

METHODS BY WHICH LANDLORDS ACQUIRED THE OWNERSHIP OF THEIR FARMS.

Apparently, the great majority of landlords acquired the ownership of their farms by purchase. Direct acquisition by inheritance or by marriage was responsible for only 14 per cent of the acreage acquired by the male landlords (page 536), but for 38 per cent in the

[8] It should also be noted that in this region no small part of the number of tenant farmers is accounted for by the renting of State lands and Indian lands.

TENURE EXPERIENCE OF LANDLORDS OF RENTED FARMS, 1920.

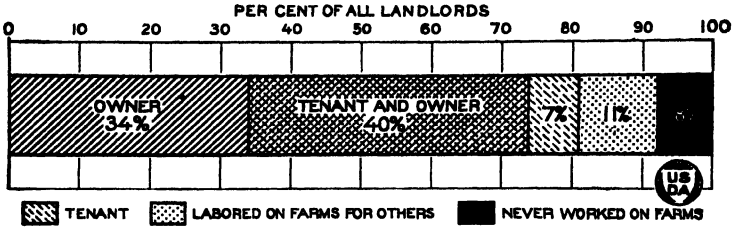


FIG. 35.—The figure shows the previous tenure experience of about 20,000 male landlords who replied on this point. Nearly three-fourths had been operating owners and two-fifths had been both tenants and owner-farmers. Source of data is the same as for Figure 33.

case of female landlords. The female landlords, however, constituted only 15 per cent of the 24,000 landlords who replied to the inquiry (fig. 36).

TENURE OF FARM LAND BY CORPORATIONS.

Corporate land tenure is shown by about 7,700 replies to a special inquiry by the Bureau of Agricultural Economics to have become more prevalent in 1923 than in 1913 in most parts of the country. Where diminished, however, this decrease is probably due partly to high Federal and State corporation and income taxes as well as increasing local taxes on real estate, and partly to State laws using other methods than taxation to prohibit corporate ownership or leasing of farm land. Farming corporations in 1921, the latest year for which Federal income-tax statistics are now available, were reported from every State (fig. 37). Marked variation exists between States in the number of corporations thus reporting, and this variation apparently bears little relation to the legal position corporations owning farm land occupy in the various States.

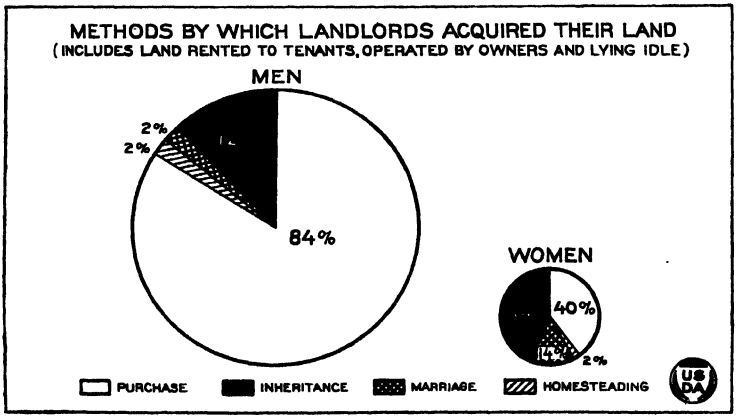


FIG. 36.—Fourteen per cent of the male owners and 58 per cent of the female owners of rented farms had acquired their lands by inheritance or marriage and 2 per cent of each class by homesteading, the remainder having purchased their lands. It should be noted, however, that these figures made no allowance for the fact that a considerable part of the wealth used to purchase farms was acquired by inheritance, marriage, or gift (see p. 563). Source of data is the same as for Figure 33.

A certain amount of farm real estate is held by corporations whose agricultural activities are incidental to their operations, as in the case of canneries, refineries, or manufactories of other kinds.

There are numerous corporations having a temporary tenure relationship to particular areas of farm land. These include lumber companies, land development companies, and money-lending corporations. Institutions of the last-mentioned variety have appar-

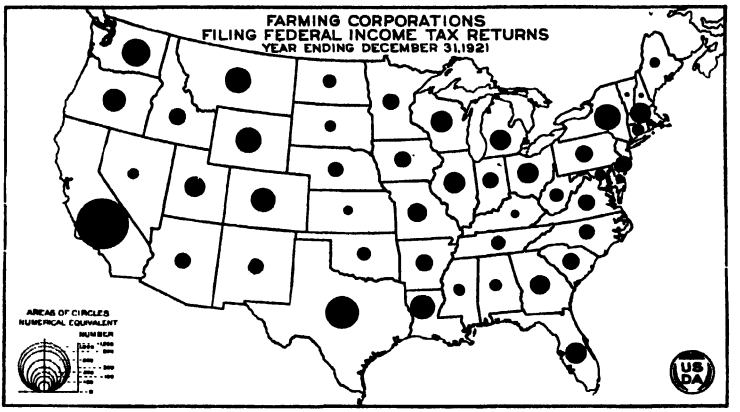


FIG. 37.—A classification of 1,689 of the 7,428 farming corporations is as follows: Cotton farming, 11, or 0.7 per cent; grain farming, 23, or 1.4 per ment; stock farming, 711, or 42.1 per cent; and fruit farming, 944, or 55.9 per cent. Of the 7,428 farming corporations, 2,684 reported net income, the aggregate being $34,260,175, and 4,744 reported net deficits in an aggregate of $63,334,248 for the year 1921. However, this year was less productive of income for farmers than the years immediately preceding. Corporations are distributed among the States according to the location of the internal revenue offices in which their income tax returns are filed. Corporations reporting from New Jersey, for example, may have owned or leased property located in several States, and in some cases may have owned or leased no property in that State except to maintain an office.

ently increased their holdings in some sections, presumably because of taking farm land in satisfaction of debt.

OWNERSHIP OF LAND BY PERSONS OF FOREIGN BIRTH.

Under the common law aliens are not permitted to own land. However, this rule has been modified by statutory enactments in all of the States. In 18 States aliens are given the unrestricted right to the ownership of land. In others the right is limited. In a number of States aliens are permitted to acquire landownership by inheritance, but are compelled to dispose of the title within a specified number of years. In some States the restrictions are made to turn on the question of residence or nonresidence. By treaties with certain countries the Federal Government has accorded the rights of ownership to their nationals for limited periods and purposes. Through its definition of citizenship and determination of requirements for naturalization, the Federal Government has also exerted an indirect influence, which, by existing legislation in a number of States, has been directed against the tenure of land by certain

classes of aliens. This has been a factor of large importance on the Pacific coast.

According to the census of 1900, there were only 699 nonresident aliens owning rented farms in the United States. They owned 1,093 farms. No more recent statistics are available for the United States as a whole concerning the ownership of land by nonresident aliens. In 1920, however, 10.6 per cent of all white farm operators in the United States were of foreign birth, including those naturalized and unnaturalized. Of these foreign-born operators, 79.9 per cent were either owners or part owners, while only 65.6 per cent of the native-born operators were owners and part owners.

SUMMARY OF THE CHARACTERISTICS OF LANDLORDISM IN THE UNITED STATES.

We may now summarize the characteristics of farm landlordism in America. All but a small proportion of the landlords have grown up from the soil and possess direct experience with farming. More than a third are engaged in agricultural occupations, nearly another third are retired farmers, and the remaining third are in nonagricultural occupations, mostly country bankers, merchants, and professional men in the country towns and villages who have either come into farm ownership through inheritance or marriage, or have purchased farms for purposes of investment or speculation. Fifteen per cent of the owners of rented farms are women, for the most part widows or daughters of deceased farmers. Corporations do not comprise an important class of landlords. Probably not more than 10 per cent of the rented farms are owned by absentee landlords, and apparently there has been little change in this regard since 1900. There is but little concentration of ownership, except in the plantation region of the South, and apparently for the country as a whole there has been no increase in concentration. However, there is enough both of absenteeism and concentration of ownership to justify real concern. There is comparatively little ownership of farm land by nonresident aliens.

Causes of the Development of Tenant Farming—II. Conditions Which Determine That Persons Will Become Tenants.

TEMPORARY CONDITIONS CAUSING MEN TO PREFER TO RENT RATHER THAN TO OWN THE LAND THEY OPERATE.

Under certain conditions men prefer to rent temporarily rather than to own the land they operate. For instance, the farm owner expecting shortly to retire from farming or to engage in another business may have a favorable opportunity to sell the farm he owns before he is quite ready to quit farming, and may prefer to rent a farm rather than to purchase for the short remaining period. Others who propose to buy farms, especially in new regions, may desire to become acquainted with the neighborhood and its opportunities or to acquire more experience as farm operators before venturing to purchase. This latter motive for renting operates particularly in the case of sons or sons-in-law who will ultimately inherit the ownership of the farms.

While some farmers remain tenants deliberately, even though they have sufficient capital to purchase a farm, the great majority become tenants and many continue as tenants because they do not command sufficient capital and credit to purchase a farm and provide the requisite operating capital. Therefore, tenancy is closely connected with the valuation of farm real estate.

Relation of Tenancy to the Valuation of Farm Real Estate.

It has sometimes been said that tenancy and high farm real estate valuation "go together," with the suggestion that the latter is largely responsible for the former, but the matter is not quite so simple as this. It is true that a high percentage of tenancy is frequently associated with high land valuations, but the exceptions are quite numerous (compare figs. 9 and 38). A mathematical coefficient of correlation calculated for each of the States of the Union on the basis of the relationship of percentage of tenancy to average value of farm real estate per acre, by counties, shows that in at least a score of States the coefficient is either negative or too low to indicate a significant correlation. In only about a dozen States is the relationship well marked.

One assumption that sometimes underlies the idea that high farm real estate valuations are likely to result in a high percentage of tenancy is that it must be harder, or else take longer, to pay for a farm consisting of high-valued land than for one consisting of low-valued land. If the farm is to be paid for out of the earnings attributable to the farm real estate, however, and if these earnings are proportionate to the valuation of the land, it should not be more difficult to pay for a farm in a section where valuations and earnings are high than in a section where both are low. The valuation of farm real estate does not always vary in exact proportion to income attributable to it, as will be shown later, but that the relationship is very close is indicated by the results of more than a score of local farm surveys. Moreover, a study of the average number of years spent as farm wage earners and as tenants by those who passed through both stages before becoming farm owners indicates that the period is not longer in the sections of high land valuations than in those of low land valuations.

In general, the greatest difficulty in acquiring a farm is in securing a sum sufficient for the initial payment, and it is sometimes argued that the higher valuation of farm real estate compels the farmer to accumulate a larger sum for initial payment, thus forcing him to remain a longer time as a tenant before attempting to buy a farm and also to command a larger volume of credit in order to finance the remaining indebtedness. There is a considerable degree of truth in this, but it is possible to give the point exaggerated importance. As between different periods the change in the valuation of farm real estate measured in terms of the current purchasing power of money may reflect largely a change in the value of the money itself. Temporarily, this may or may not increase the period of waiting before buying, depending on a number of circumstances, such as the effect of the change in the value of money on the power of tenants and other prospective owners to accumulate and on the amount and value of their savings. As between areas of high-

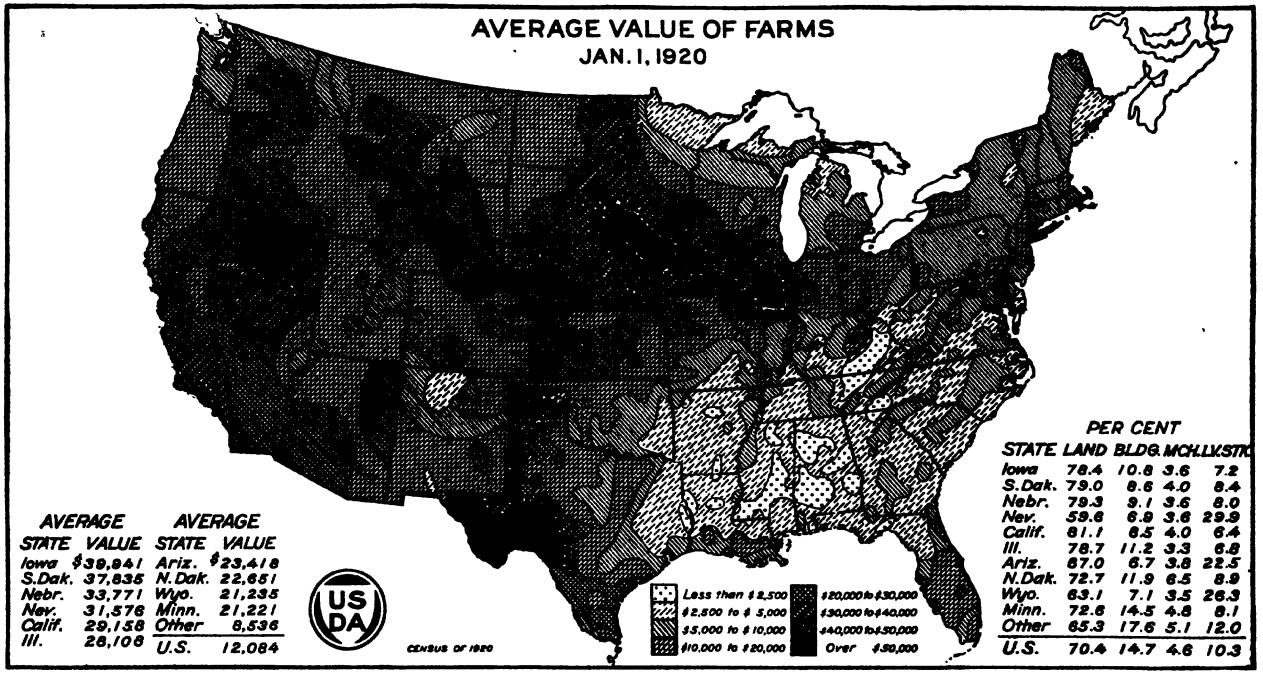


FIG. 38.—The average valuation of farms, including buildings, machinery, and livestock, in the prairie portion of the Corn Belt and the southern part of the spring wheat region was about $40,000 in 1920. The high valuations shown in western Texas and northern Nevada are mostly of cattle ranches, which are few in number and large in area, often including thousands of acres of arid range and hundreds of cattle. In central and southern California, on the other hand, many of the high-priced farms are small, but consist of expensive orchards or of bean or sugar-beet land. The very low-priced farms shown in the eastern Cotton Belt are, in large part, small cropper or tenant holdings in plantations. The light areas in Kentucky and Tennessee represent poor mountain farms. In most parts of the United States there has been a marked decrease since 1920 in the prices of farms and equipment, especially of land.

valued and those of low-valued real estate, high valuations are frequently associated with high net worth on the part of tenants. Thus, an Iowa survey in 1918 showed the average net worth of farm tenants in a selected region of high land valuation to be $9,552, which was more than the average total farm capital of owner farmers in many other parts of the United States. While the census since 1900 has not classified farms in accordance with their valuation, except mortgaged farms of owner farmers in 1920, the relative diversity of valuations, when livestock, implements and machinery are included with land and buildings, is indicated in Table 2, derived from the census of 1920.

TABLE 2.—*Classification of counties by average valuation of farm property, including real estate, livestock, implements, and machinery, 1920.*[1]

Range of average total valuation of farm property per farm, by counties.	Number and percentage of counties.		Range of average total valuation of farm property per farm, by counties.	Number and percentage of counties.	
	Number.	*Per cent.*		*Number.*	*Per cent.*
Under $5,000	821	26.7	$35,000 to $39,999	80	2.6
$5,000 to $9,999	747	24.3	$40,000 to $44,999	56	1.8
$10,000 to $14,999	435	14.2	$45,000 to $49,999	51	1.7
$15,000 to $19,999	329	10.7	$50,000 to $54,999	35	1.9
$20,000 to $24,999	193	6.3	$55,000 and over	60	1.2
$25,000 to $29,999	162	5.3			
$30,000 to $34,999	102	3.3	Total	3,071	100.0

[1] Based on census statistics.

Although it is possible to give exaggerated importance to real estate valuations as an influence toward the development of tenancy, there are a number of regions in the United States of very low land valuations where tenancy is conspicuous for its absence, as for instance, in some of the sandy lands of the Atlantic and Gulf coastal plains and in the Appalachian and Ozark plateaus. Frequently, the high percentage of landowning farmers in these regions is an expression of the fact that agriculture still continues more or less in the self-sufficing stage, yielding too small a money income to permit the farm owner to retire and lease the farm to another.

Influence of the Ratio of the Income to the Capital Valuation of Farm Real Estate.

It appears probable that a marked increase in the valuation of farm real estate is a more significant influence than the high farm real estate valuations themselves, and that where high real estate valuations and a high percentage of tenancy are associated, this association is largely due to the influence of the increases in valuation more than to the high valuations in themselves.

The rapid increase in the valuation of farm real estate since 1850 is shown in Figure 39. How large a factor this increase has been from the standpoint of an investor may be more clearly shown by expressing the increase in investment terms. Thus, the average increase in the valuation per acre of farm real estate in the United States from 1900 to 1920 (fig. 40) is equivalent to an annual interest rate of 6.47 per cent compounded annually on the average valuation in 1900, and this is in addition to the annual rental earned by the property during the interval. In the case of Iowa, the increment from 1850 to 1920 is equivalent to an interest rate of 5.31 per cent compounded annually, while the increment from 1900 to

CHANGES IN THE AVERAGE VALUATION OF FARM REAL ESTATE PER ACRE AND PER FARM, AND OF AVERAGE ACREAGE PER FARM; UNITED STATES, IOWA, PENNSYLVANIA, AND GEORGIA, CENSUS 1850–1920.

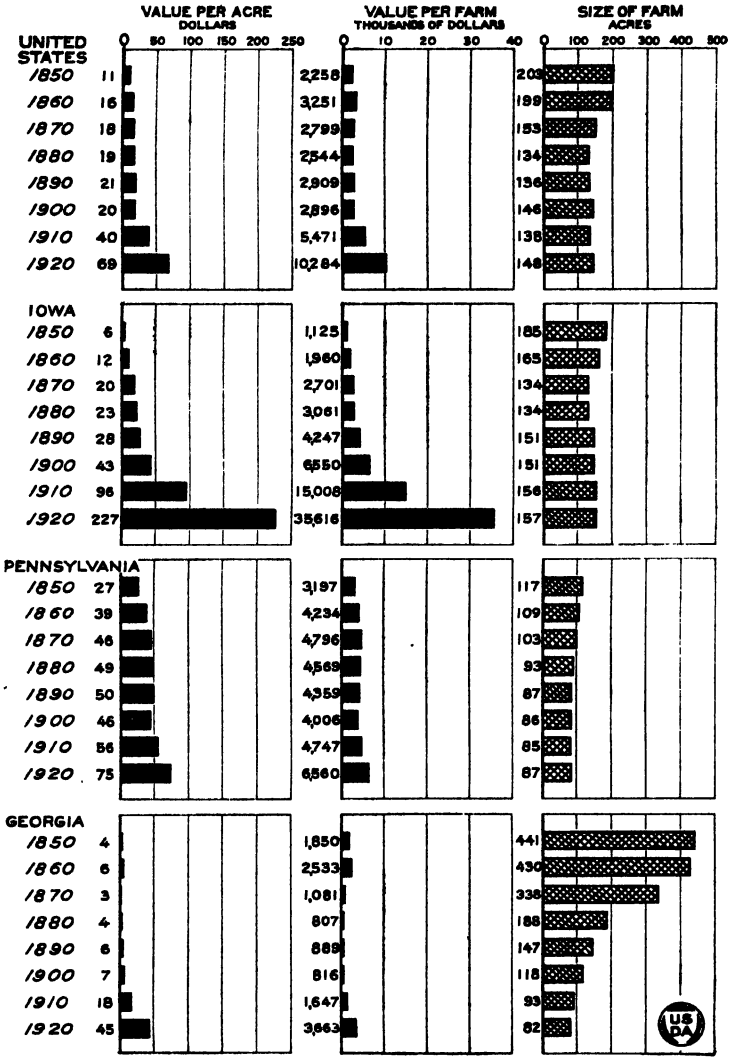


FIG. 39.—For the United States as a whole the average valuation of farm real estate increased from $11 an acre in 1850 to $20 an acre in 1900, but in the next 20 years it increased to $69. During these two decades the increase in the valuation of land was closely related to the upward movement of general prices, which characterized the period and which was greatly accelerated in the last few years by the inflation that developed during the World War. Since 1920 land valuations have declined in most parts of the United States.

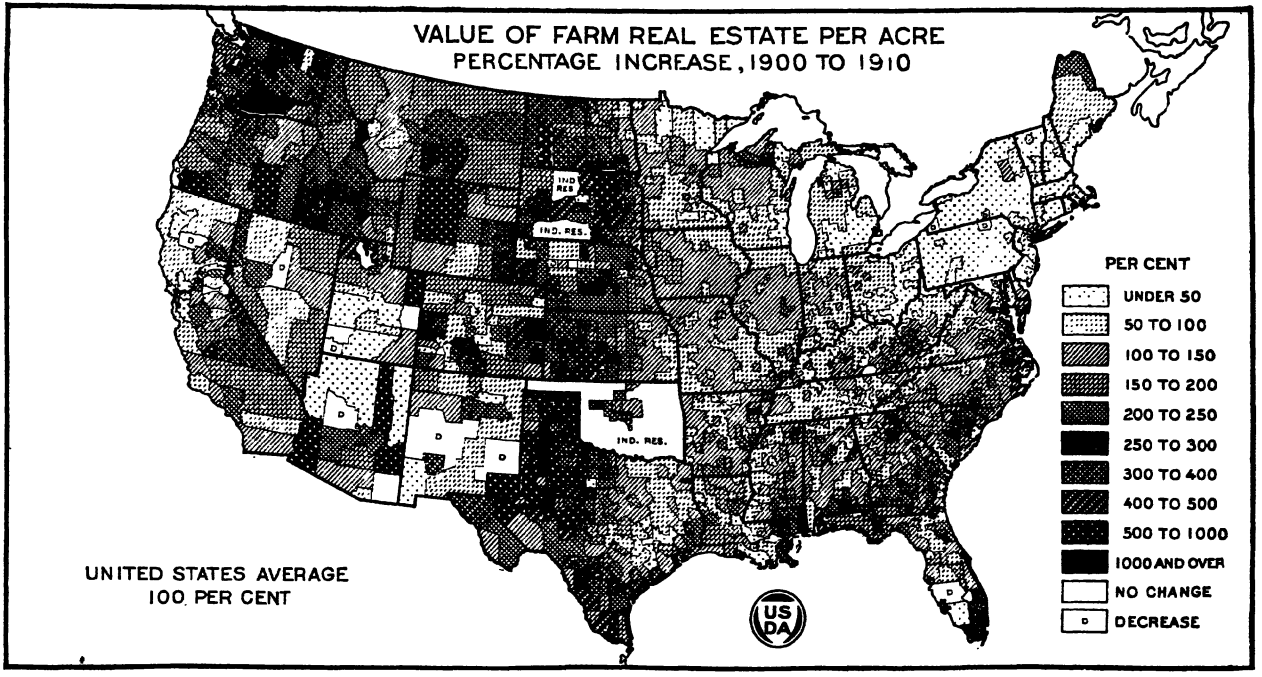


FIG. 40.—The percentage of increase in the census valuation of farm real estate per acre between 1900 and 1910 was large in the Great Plains region and in many of the irrigated areas of the West. In the East the greatest percentage increases in valuation were in the South Atlantic and Gulf coastal plain, but the greatest absolute increases in valuation were in the Corn Belt. Only 16 counties out of nearly 3,000 in the United States showed a decrease in valuation. The increase in the New England and Middle Atlantic States, however, was small as well as in many counties of the Lake States and of Kentucky, Tennessee, and eastern Texas. The average increase in valuation for the United States as a whole was 100 per cent. The percentage of increase exceeded that in the wholesale price of all commodities (Bureau of Labor statistics), and consequently it represented an increase in the purchasing power of farm real estate. For corresponding map showing changes from 1910 to 1920, see page 119 (fig. 16 in The Wheat Situation).

1920 is equivalent to an interest rate of 8.64 per cent compounded annually.

Part of the increment in valuation was due to improvements made by the owners, such as buildings, clearing and drainage of land, and contributions indirectly through taxation toward the building of roads and other community improvements. Even allowing for all this, the increment was large in many parts of the country.

With the exception of a few scattered grazing areas of the West, increases in the valuation per acre of farm real estate occurred in practically all parts of the United States from 1910 to 1920. In the greater part of the general farming region of the North and Northeast the increase was less than the increase in the general price level of commodities during the same period, except in a region centering in the corner where the boundaries of Iowa, Minnesota, and South Dakota meet. In portions of the South, particularly where the boll weevil infestation was either not serious or became serious late in the period, there were percentages of increase greater than those for commodity prices. The decreases in the West are notable and are to be explained in part, at least, by the expansion of the farm area to include large amounts of low-priced semiarid lands. For the United States as a whole the valuation of farm land, as measured by the purchasing power of money, was less in 1920 than in 1910.

This rapid increase in the valuation of farm real estate per acre, based largely on anticipation of increasing income from the real estate, has disturbed to a marked extent the relationship between the present income from real estate and its valuation in some parts of the United States. When a man buys a farm, whether for purposes of renting it to others or of operating it himself, it is because he expects it to yield him income. The price he is willing to pay depends on the expected income and on the percentage of return which he is willing to take on an investment of this character. If the income does not remain constant but is expected to increase for some time, many buyers will undoubtedly take this expected increment into account and will be willing to pay more accordingly. As a result, present income frequently will be a smaller percentage of the average valuation of farm real estate than the percentages of return ordinarily obtained from alternative investments having reasonable security.

Recent studies have shown that this condition developed in some of the most important farming sections of the United States, as indicated by the low ratios of cash rent to real estate valuations [10] (fig. 41).

[10] For the purpose of measuring the relationship between income from farm real estate and its valuation cash rent proves more serviceable than share rent, because the former represents more nearly payment for the use of the farm real estate as distinguished from some of the other elements which enter into share rent, such as payment for a larger amount of risk assumed by the landlord, for supervision contributed by him, and frequently a participation in some of the expenses of production. It is true, cash rent is not exactly identical with the net income received from the real estate by the landlord, for taxes are yet to be deducted and certain minor expenses, including repairs and depreciation of buildings. However, it is the best statistical measure available.

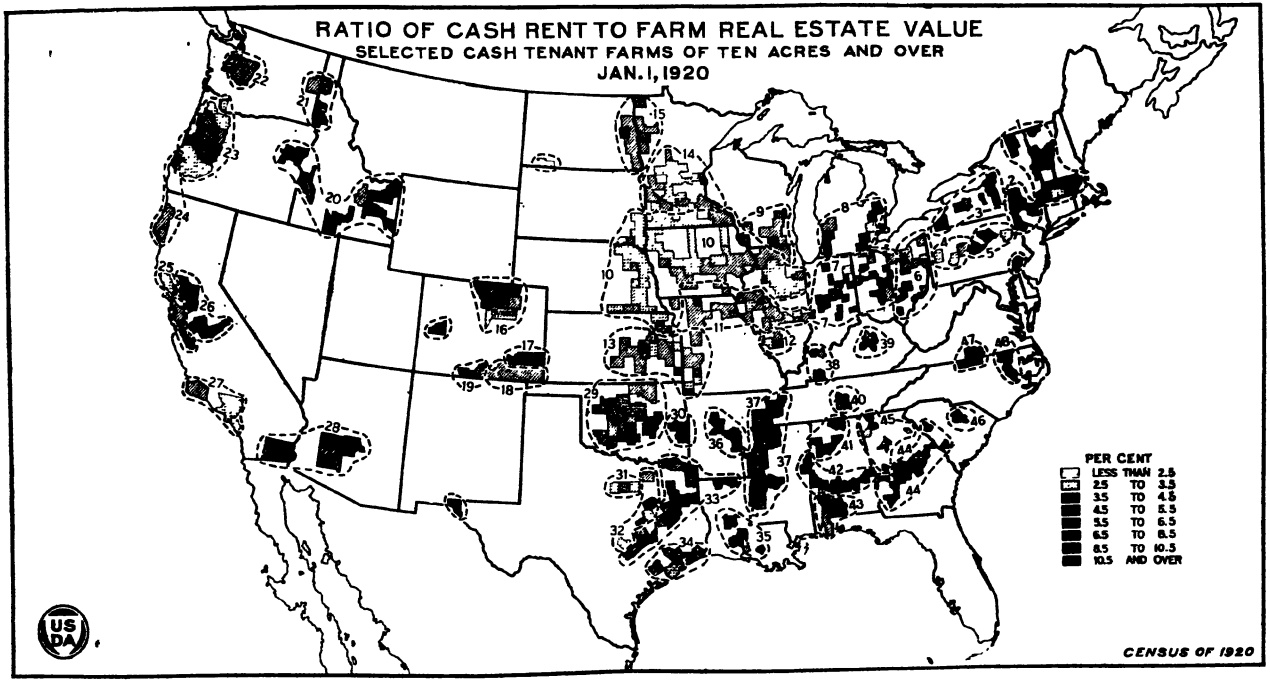


FIG. 41.—In many counties in the Corn Belt cash rents averaged about 3 per cent of the valuation of farm real estate on January 1, 1920. In most of the remainder of that region, as well as in parts of the winter wheat and spring wheat regions, it was under 4.5 per cent. The return was 6 to 8 per cent in much of New England, eastern New York, and the South. It reached the highest ratio, 10 per cent and over, in the Yazoo Delta and adjacent bottom lands of Arkansas. On the Pacific coast cash rents returned in general from 3 to 6 per cent. Out of these cash rents taxes and repairs had to be paid. The map is based on a special study made by the Bureau of Agricultural Economics, Division of Land Economics, based on the census schedules of tenant farms of 10 acres or more rented for cash in the counties shown.

When allowance is made for taxes and costs of repairs and depreciation the ratios of net cash rent to the valuations of farm real estate are found to be considerably lower than the corresponding ratios for gross cash rents. Special studies to determine the net ratios, made by areas as numbered in Figure 41, gave the results shown in Table 3.

TABLE 3.—*Ratios of net cash rent to farm real estate valuations for selected cash-rented farms in groups of counties as shown in Figure 42.*

Area number.	Ratio.	Area number.	Ratio.	Area number.	Ratio.
	Per cent.		*Per cent.*		*Per cent.*
7	3.4	14	2.2	37	6.5
9	2.8	25	2.6	42	3.8
10	2.4	26	4.7	46	5.9

In so far as net cash rent may be regarded as measuring the net earning power of the real estate for the farmer of average managerial ability, it will be apparent that buying farm real estate by borrowing money at regular interest rates with the purpose of paying for the real estate out of the earnings must be difficult for the tenant farmer of average resources and ability in regions where net returns from the real estate average only 3 to 4 per cent. It is true, if the expected increments in incomes materialize, they will tend

AVERAGE CASH RENT PER ACRE: SELECTED AREAS IN NORTH CENTRAL STATES, 1905–1920.

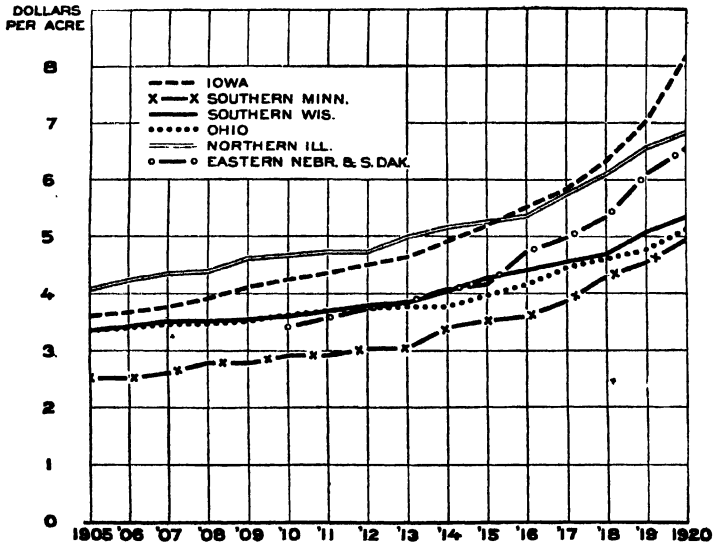


FIG. 42.—The upward trend of rentals on these farms in the Corn Belt and on the margins of the Corn Belt throughout the period shown is remarkable. Exactly comparable figures are not available for the years since 1920, but undoubtedly cash rents have declined in the past three years. Although rents advanced continuously and in several areas doubled in the 16 years shown, land valuations increased even more rapidly. The graph is based on reports from landlords in the States named to the Bureau of Agricultural Economics, Division of Land Economics.

RATIO OF CASH RENT TO FARM REAL ESTATE VALUATION, OHIO, 1900–1920.

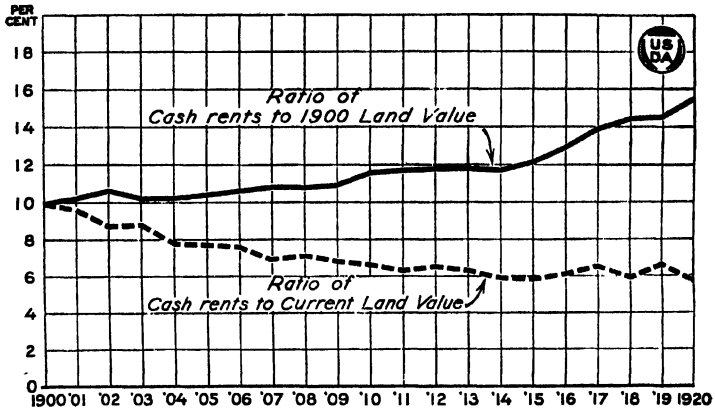


FIG. 43.—A ratio high to begin with and markedly advancing is shown for gross cash rents in relation to the valuation of real estate that prevailed in 1900. A ratio high to begin with but persistently declining is shown when these rents are measured against very rapidly rising real estate valuations. Persons buying farm real estate early enough in the present century to get the advantage of both rising rents and rising valuations were in a much more favorable position than those buying after the valuations had not only reached high absolute figures but figures especially high in relation to the rents.

to ease the situation for the purchaser, but it is obviously a very uncertain foundation on which to build a business if the farmer must depend in large part on borrowed money (figs. 42 and 43). Many a tenant, of course, was bold enough to take the plunge, and after surviving the difficulties of the earlier years, was carried upward by the tide of increments in incomes and valuations to a secure financial position. But many others, especially those of poor credit ratings or conservative dispositions, were undoubtedly deterred from embarking on a venture involving so large an element of speculation. In fact, local studies have revealed many cases of tenants with sufficient capital to buy land who rented land from preference. Still other tenants ventured too late, and were wiped out in the decline of prices which began in 1920.

An increase in the valuation of farm real estate may also tend to increase tenancy by hastening the process of retirement of landowning farmers, enabling them to retire earlier than would have been possible if the increase had not occurred. The rising valuation of farm real estate has probably also tended to encourage the holding of this form of property by those who came into possession by inheritance, marriage, or foreclosure, and who are not in a position to operate it.

In short, for a number of reasons it is probable that the increase in realty valuations and the passing of large areas out of the stage of pioneer development, which have been especially notable during the last three decades, have been conditions favorable to the increase of tenancy.

The Tenure Ladder.

It has been found convenient to regard working as a wage-earner, as a tenant, and as an owner farmer as successive rungs on a ladder

of individual progress in agriculture. The comparison is useful in some regards, for it suggests a movement from stage to stage which constitutes an important fact in the economic life of the farming classes.

We may recognize at least the following important steps, arranged in the usual order of progress: (1) farm wage laborers; (2) croppers, especially in the South; (3) tenants other than croppers; (4) part owners, mortgaged; (5) part owners, free of mortgage; (6) owner farmers, mortgaged; (7) owner farmers, free of mortgage.

In applying the analogy of a ladder to such an artificial scheme, there must be a number of reservations. In the first place, the various successive stages may not always represent progress. It is probable that the various stages do represent some progress in independence of control, although not always, for an owner under heavy mortgage may be less independent than a tenant who is out of debt. Moreover, progress in independence does not always mean progress in well-being. Many a tenant who is subject to the supervision of a capable and honest landlord may be better off than a farm owner who has not sufficient experience or capital to operate his farm efficiently.

Wealth of Persons in the Tenure Stages.

Those who employ the ladder analogy frequently have in mind that each succeeding step indicates higher financial standing, or net worth. It is obvious, however, that a mortgaged owner farmer may have a smaller equity in the farm capital than a tenant or part owner free of mortgage. Moreover, a tenant in some parts of the United States possesses more property on the average than an owner in other parts. For instance, in Iowa the average valuation per farm of machinery and livestock (usually owned by the tenant) was $4,212 in 1920, which is more than the average value of land, buildings, implements, and livestock for farms operated by their owners in certain other States (fig. 44).

However, in a given area the average net worth of the individual is likely to approximate the order of stages in the tenure ladder. An estimate of the per capita net worth of persons actively engaged in farming in the United States, as of January 1, 1920, showed the following division of wealth between four of the classes mentioned above [11]: Croppers, $354; tenants (other than croppers), $4,315; part owners, 12,829; owner farmers, $13,476.

AGE OF PERSONS IN THE TENURE STAGES.

Each of the different stages of the agricultural ladder has its peculiar age distribution. Owner farmers, for instance, show an age grouping more advanced than that of tenants (fig. 45). The relation of the several stages to age is shown in Table 4.

[11] Gray, L. C. "Accumulation of Wealth by Farmers." *Proceedings* of American Economic Association, March, 1923. The estimate, though made with care, is considered a rough one because of numerous gaps in available statistics.

AVERAGE VALUATION PER FARM OF LAND AND BUILDINGS AND OF MACHINERY AND LIVESTOCK; UNITED STATES AND SELECTED STATES, CENSUS OF 1920.

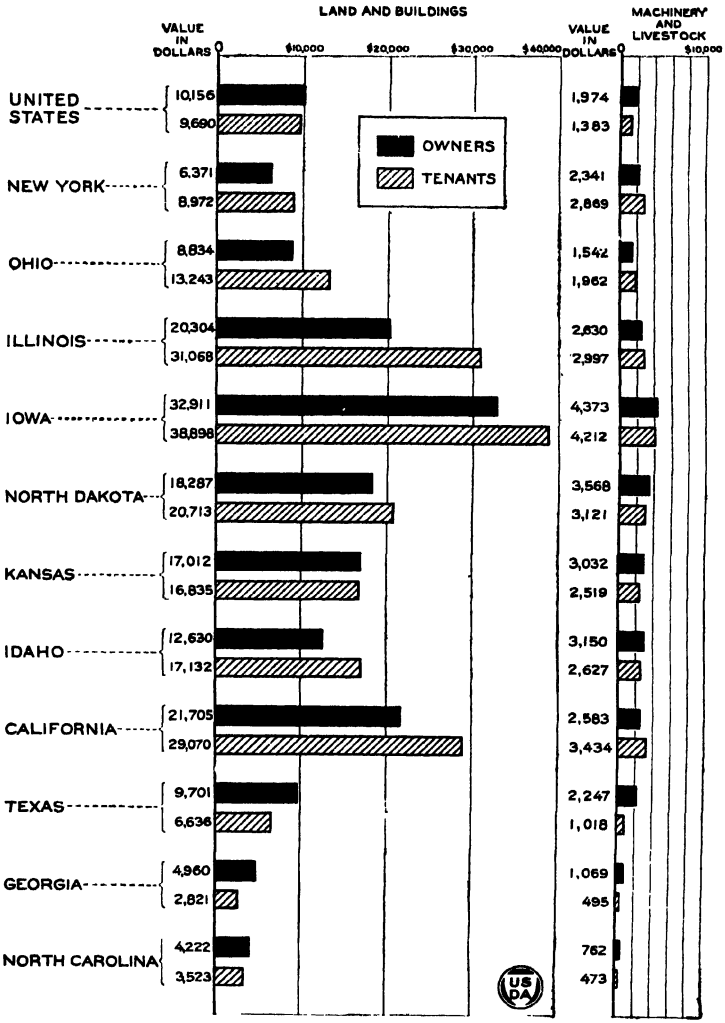


FIG. 44.—The average investment in machinery and livestock per farm required to become a tenant in Iowa is larger than the valuation of the entire farm in much of the South and in parts of New England and the upper Lakes region (fig. 38). The valuation of machinery and livestock per farm, much of which is usually supplied by the tenant, ranged from $2,000 to $4,000 in 1920 in the Northern and Western States and from $500 to $1,000 in the Southern States. The valuation of the land and buildings owned by the landlord is five to ten times as large. In the North and West the tenant farms usually have higher average valuations than those farmed by their owners, but in the South, where many of the so-called tenant farms are merely cropper holdings, the reverse is true.

TABLE 4.—*Percentage of farmers in each age group, by tenure, United States, 1920. (Figures in heavy type represent the age group in each tenure class which shows the highest percentage).*[1]

Age group.	Share and share-cash tenants.	Cash and unspecified tenants.	Part owners.	Full owners mortgaged.	Full owners not mortgaged.	Total (excluding managers).
Under 25 years	**63.4**	12.4	5.0	7.6	10.2	98.6
25 to 34 years	42.7	**15.8**	8.9	17.1	16.2	98.7
35 to 44 years	28.7	11.1	**10.5**	**22.0**	26.6	98.9
45 to 54 years	21.1	9.0	9.8	21.6	37.6	99.1
55 to 64 years	14.2	6.5	7.7	19.7	51.2	99.3
65 and over	10.8	5.7	4.7	14.1	**64.1**	99.4

[1] Based on census statistics.

Table 4 tends to exaggerate somewhat the impression of movement from group to group. For instance, the steady increase in the percentage of each age group found in the class of full owners not mortgaged is by no means due entirely to the rise of farmers from preceding tenure stages. It is undoubtedly due in considerable part to the fact that heirs who have been working on their fathers' farms without wages or as hired laborers have become full owners free from mortgage directly, without passing through the other stages. These accessions to the numbers in this class from outside classes tend to reduce the percentages of the farmers in corresponding age groups in the other tenure classes even if the actual numbers in each group were not diminished. However, in spite of these limitations the table does indicate strongly (*a*) that the attainment of farm ownership is connected with relatively advanced age, and (*b*) that from age group to age group there is a movement which follows somewhat the order of stages from left to right in the table, although particular individuals need not necessarily pass through all the tenure stages consecutively.

It is interesting to note that in the case of colored farm tenants the percentage in each age group does not diminish from the 25–35 age group onward, as with white tenants, but reaches a maximum in the 35–45 age group, and that each older age group is relatively larger than with white tenants (fig. 46).

RELATION OF THE TENURE STAGES TO AVAILABLE CAPITAL.

The preceding indication of a connection between progress in wealth and progress up the tenure ladder, on the one hand, and advancing age, on the other hand, suggests two tentative interpretations: (1) The several stages represent economic adjustment to the farmer's equipment in wealth and experience; and (2) since experience can be acquired in a comparatively short period, movement up the tenure ladder is largely dependent on progress in wealth. Each of these two interpretations requires further consideration.

Obviously, farm workers who have no capital must usually remain either as laborers or as croppers until a sufficient amount has been accumulated or otherwise acquired to enable them to purchase the livestock, implements, and other materials necessary to become tenants. As already noted, the average requirement may vary from a

WHITE TENANTS COMPARED WITH WHITE OWNER FARMERS, PERCENTAGES IN SPECIFIED AGE GROUPS; UNITED STATES, CENSUS OF 1920.

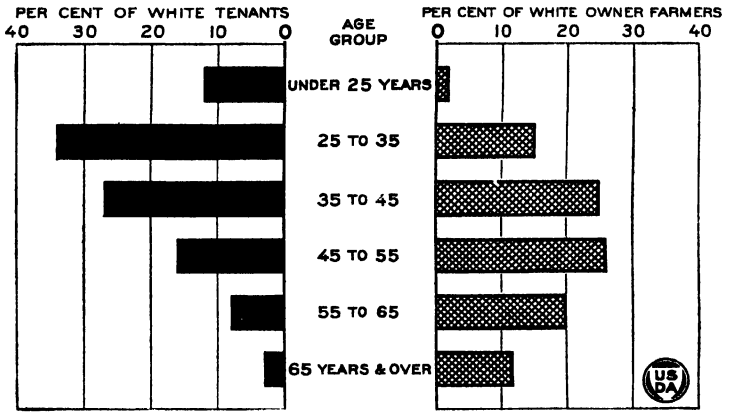


FIG. 45.—The graph shows a larger proportion of white tenants in the younger age groups and of owners in the older age groups. Nearly a third of the tenants are between 25 and 35 years of age and nearly nine-tenths are under 55 years of age. On the other hand, nearly a third of the owners are over 55 years old.

few hundred dollars for some of the small cotton farms of the South to $5,000 or more for some farms in the Corn Belt (fig. 44).

Generally, it is poor management to purchase a farm when the result is to leave inadequate operating capital.[12] Frequently, it is a

COLORED TENANTS COMPARED WITH COLORED OWNER FARMERS, PERCENTAGES IN SPECIFIED AGE GROUPS; SOUTHERN STATES, CENSUS OF 1920.

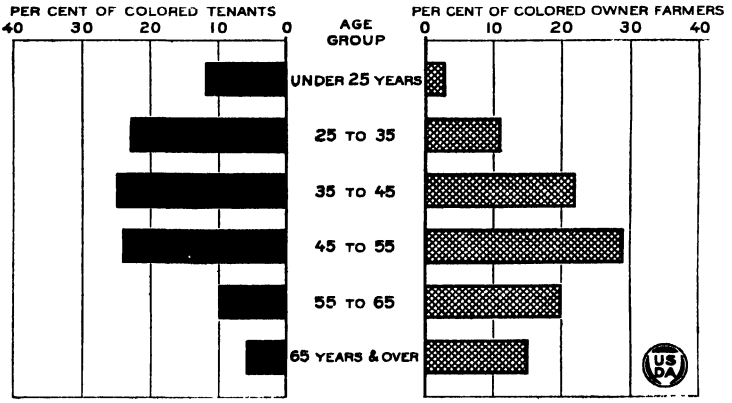


FIG. 46.—A much larger percentage of colored tenants are in the older age groups than of white tenants (see fig. 45). The percentage of owners in the older age groups is likewise somewhat larger. In other words, a relatively large proportion of colored tenants attain ownership at an advanced age or not at all.

[12] Local surveys have shown that the percentage of returns on operating capital of tenants is frequently several times as great as the percentage of rent to the valuations of real estate. However, this is due in part to the fact that the income includes wages of management and return for risk and enterprise, the whole being calculated as a percentage on a much smaller base than in the case of owner farmers.

mistake for a farmer to buy a farm when he must assume a heavy burden of indebtedness. Farming is a business involving many risks, and a mortgage may prove a millstone around the farmer's neck. Furthermore, the farmer has less freedom of movement if he has bought a farm than if he is a tenant.

TENANT FARMERS CLASSIFIED BY PREVIOUS FARMING EXPERIENCE AS REPORTED IN THE CENSUS OF 1920.

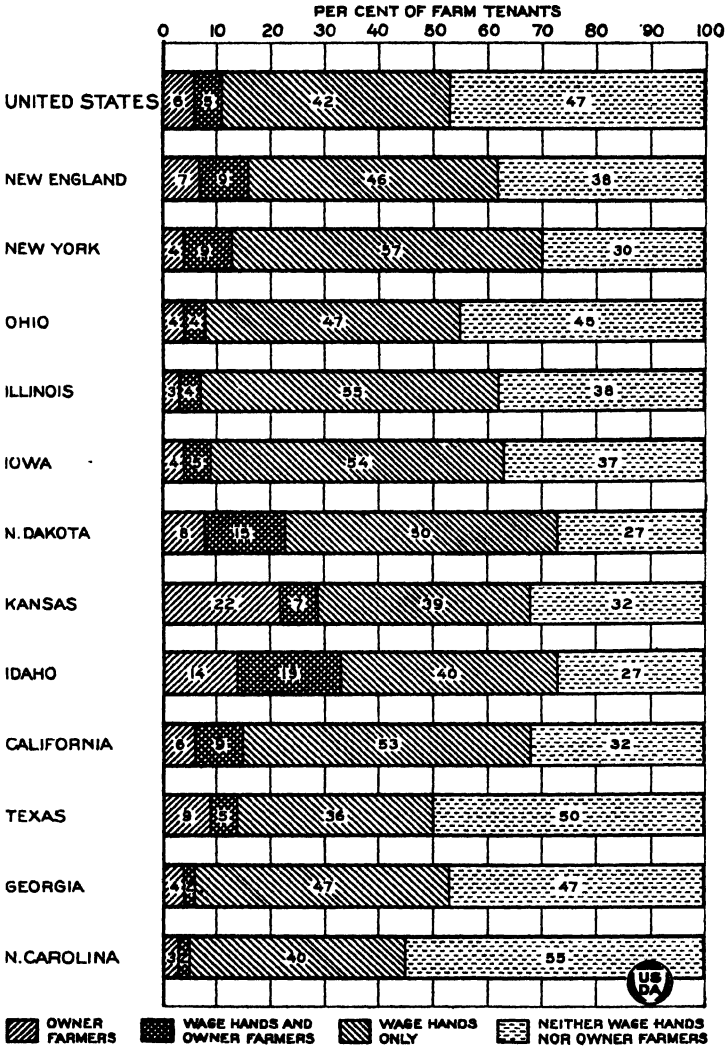


FIG. 47.— Nearly half of the tenant farmers (including croppers) in the United States have never had experience either as farm-wage laborers or as farm owners, although they may have worked without wages on their parents' farms. The class who become tenants directly without previous farm experience is especially large in the South because of the large number of farmers who are croppers or who rent land involving but small contributions of capital.

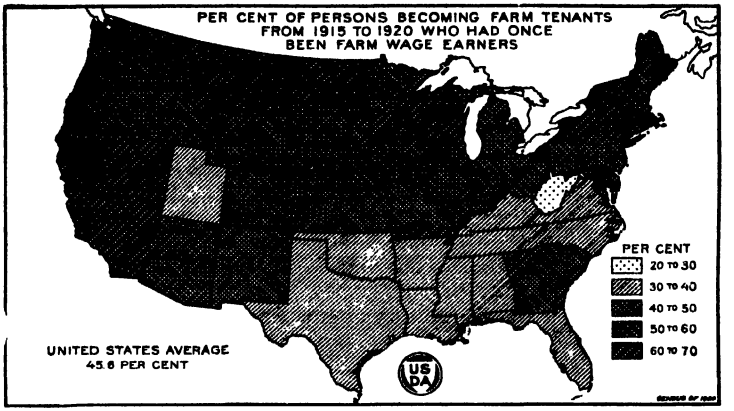


FIG. 48.—Forty-six per cent of the farmers who became tenants from 1915 to 1920 had previously been farm-wage hands. The percentage was much lower in the South than in the North and West, largely because of the small amounts of capital required in many parts of the South to become tenants or croppers, making it comparatively easy in that section to become a tenant without previously working as a hired laborer.

It may also be a mistake to purchase a farm when, because of limited capital, the farmer buys a farm too small for economical operation. If, however, there is rentable land adjacent, part ownership may be an alternative, and therefore, a definite stage in the progress of the farmer toward full ownership of an adequate farm.

EXTENT OF MOVEMENT FROM STAGE TO STAGE OF THE TENURE LADDER.

According to the 1920 census, 47 per cent of the tenant farmers in the United States had had no farm experience as wage hands or

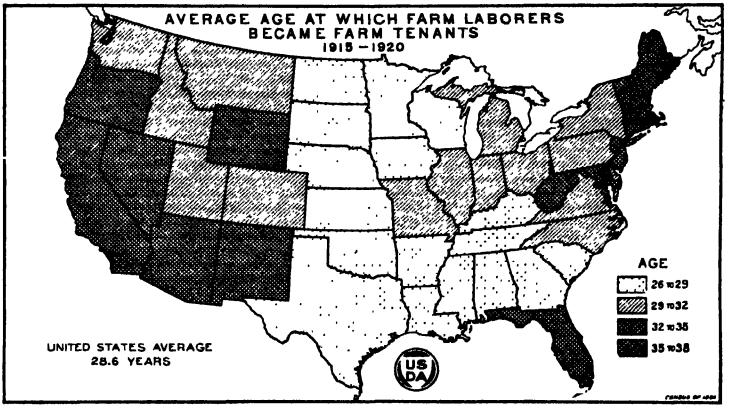


FIG. 49.—The average age at which farmers who were tenants in January, 1920, and who had been farm wage earners during the preceding five years, became tenant farmers shows a range of about 10 years in the State averages. The averages for the States in the East and in the West are higher than for the States more centrally located. The inclusion of croppers as tenants in the South and the small amount of capital required to become a tenant apparently account in some considerable measure for the low figures in those States.

owner farmers (fig. 47). The proportion varied from 25 to 55 per cent in the different States. Another large proportion of tenant farmers, varying from 40 to 70 per cent in the several States, had previously worked on farms for wages (fig. 48). The average age of becoming tenants for those farmers who made the transition from the status of farm laborer to that of tenant between 1915 and 1920 was about 29 years for the country as a whole, but varied widely between the various sections (fig. 49). A small part of this group, ranging from 2 to 20 per cent of the total number of farmers, had been both wage hands and owner farmers before becoming tenants; while a similar proportion reported that they had had previous farm experience only as owner farmers.

In the United States as a whole 11 per cent of the farm tenants had once been owner farmers. For various States the proportion ranges from as low as one-twentieth to as high as one-third of all tenants.

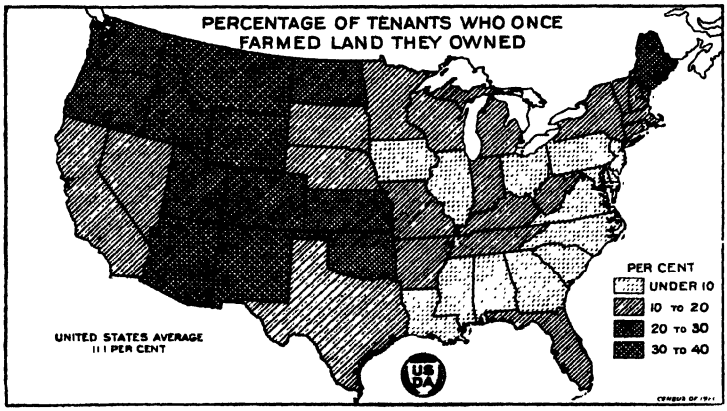


FIG. 50.—Although some of this group of tenants are persons who have been compelled through inefficiency or misfortune to revert to the tenant class, the heavy concentration in the West suggests that some are men who have sold their farms elsewhere and on migrating have become tenants for a season until they are better acquainted with the new conditions. The small proportion in the South reflects the fact that tenancy is a less important stage in the progress of farmers to farm ownership than in the North and West.

This class of tenants includes, of course, a considerable number of persons who have attempted to rise into the class of owners, but who on account of inefficiency or misfortune have been forced to revert again to the tenant class. However, a study of the geographic distribution of this class indicates at once that other important factors are involved (fig. 50).

In the United States as a whole, 42 per cent of the owner farmers reported no previous farm experience as wage hands or tenants (fig. 51). Probably the great majority of these were sons or sons-in-law of farm owners and most of them had worked on their parents' farms without wages[18]. The percentage is high in New England, where tenancy is an unimportant step in the tenure ladder, and is also

[18] Census officials have expressed the opinion that a considerable number of farmers failed to report previous farm experience as laborers or as tenants, and this failure tends to exaggerate unduly the proportion who became owners without previous farming experience. The results of a number of local surveys appear to confirm this conclusion.

high in the South, where few owner farmers have worked as wage hands, owing, doubtless, in large part to the plantation system.

In the United States as a whole only 14 per cent of the owner farmers reported farm experience as wage hands only. In the South-

OWNER FARMERS CLASSIFIED BY PREVIOUS FARMING EXPERIENCE AS REPORTED IN THE CENSUS OF 1920.

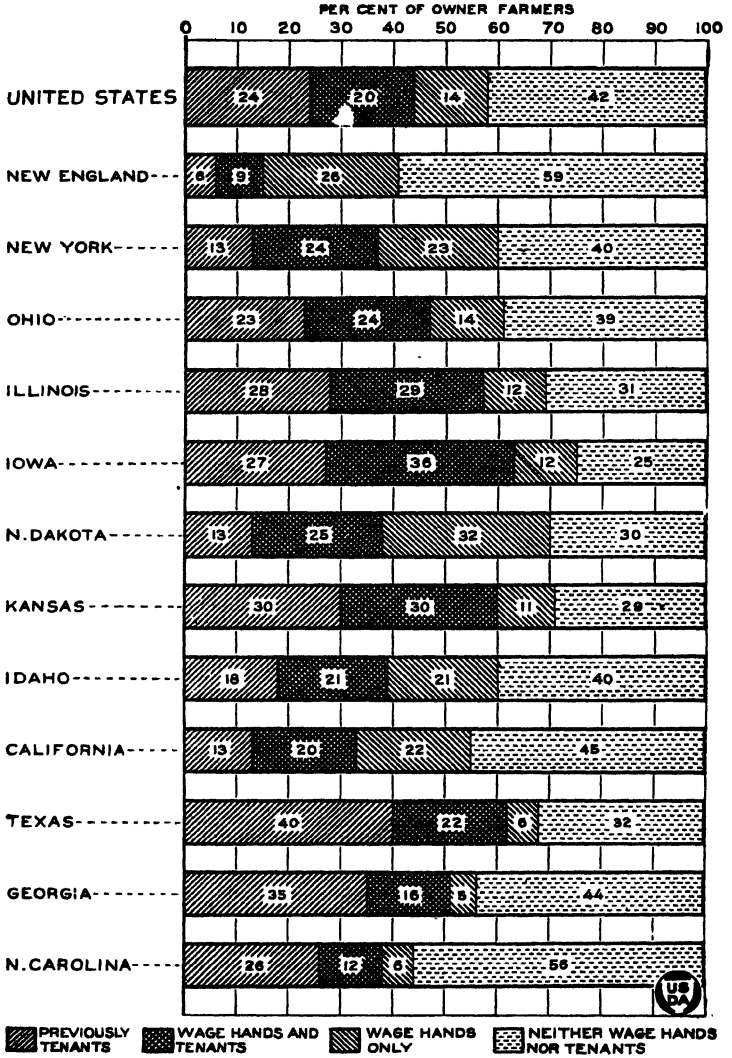


FIG. 51.—A large proportion of owner farmers became owners direct without having worked previously as farm-wage laborers or as tenants. Probably the majority of this group had worked without wages on parents' farms. Only a fifth of the farmers in the United States passed through both stages. The proportion is somewhat higher in some of the North Central States and lower in the New England States and the South. In New England many have stepped directly from wage hand to ownership, but in the South very few.

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ern States the percentage belonging to this group falls as low as 5 or 6; on the other hand, it is well above the national average in New England, the Middle Atlantic States, and most of the States in the western half of the country.

About a fourth of the owner farmers in the United States reported farm experience as tenants only, and a fifth reported farm experience both as tenants and as laborers, making about 45 per cent altogether who had passed through the tenant stage. Outside the South, the

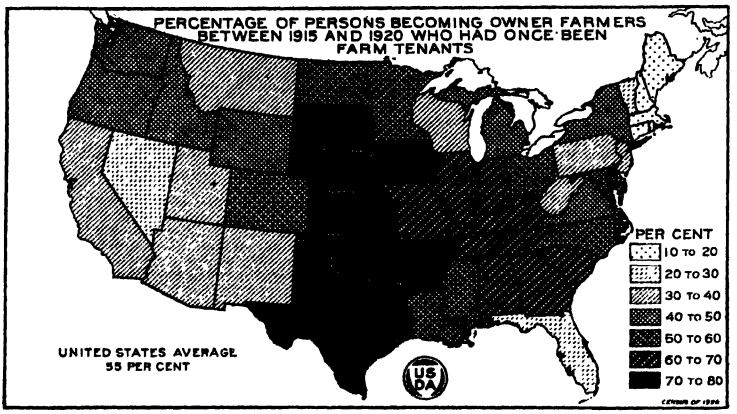

FIG. 52.—The percentage of owner farmers who had once been farm tenants is lowest in New England, only 15 per cent, and reaches a maximum, about 75 per cent, in the tier of States from South Dakota to Texas, inclusive, and in Iowa and Arkansas. In practically all the other States of the Middle West, as well as in the South, half or more of the owner farmers had once been tenants. Probably migration of tenant farmers to regions where farms were to be obtained at comparatively low prices has been a factor in causing high percentages in the tier of States from the Dakotas to Texas.

States of high average farm real estate valuations were those in which a large percentage of owner operators reported previous tenant farm experience (fig. 52).

RATE OF MOVEMENT ON THE TENURE LADDER.

It is probable that the group of owner farmers who have previously been both farm wage laborers and farm tenants will most closely approximate a group of persons who, starting with little or no capital, have succeeded in acquiring the ownership of one or more farms; for the acquisition of wealth from inheritance, gift, or marriage is undoubtedly of less significance in this group than in the groups of farm owners without previous farm experience or with experience as farm tenants only.

The average number of years spent in each stage by persons who became farm owners between 1915 and 1920 is shown for several States in Figure 53. In the United States as a whole, owner farmers who had previously been both farm wage laborers and tenants had spent an average of 5.8 years in the first stage, and 8.9 years in the second, a total of nearly 15 years. The average age at which farmers who had been both farm laborers and tenants became owners is shown by States in Figure 54. The earlier age in the northwestern

portion of the country is doubtless due in part to the migration of young farmers into this region (fig. 55).

The mere increase in the percentage of farmers who are tenants does not in itself demonstrate that the rate of progress to farm ownership has become lower or attended with greater difficulty. It might be due to a number of other causes which have little relation to the economic difficulty involved in acquiring the ownership of a farm. Thus, it has been noted that a large percentage of tenants in the United States are persons who make no effort to climb to farm ownership, and that their number has increased through the process of converting farm laborers into croppers. Again, it has been noted that tenancy is closely related to the process of retirement or retreat of owner farmers from the land, a trend which might increase the percentage of tenancy without implying necessarily that the acquisition of farm ownership had increased in difficulty. Furthermore, the last three decades have witnessed the settlement of large areas of new farm land. On the one hand, this process may tend to reduce the percentage of tenancy in the Nation as a whole, but it has been noted that after the pioneer period of operation by owners there is almost certain to be a trend toward an increase of tenancy in a newly developed region.

Indeed, even if it could be shown that the farmers who start with little or no capital and achieve unmortgaged ownership require

TIME SPENT IN VARIOUS STAGES BY FARMERS WHO, HAVING HAD FARM EXPERIENCE BOTH AS TENANTS AND AS WAGE EARNERS, BECAME OWNER FARMERS BETWEEN 1915 AND 1920, CENSUS OF 1920.

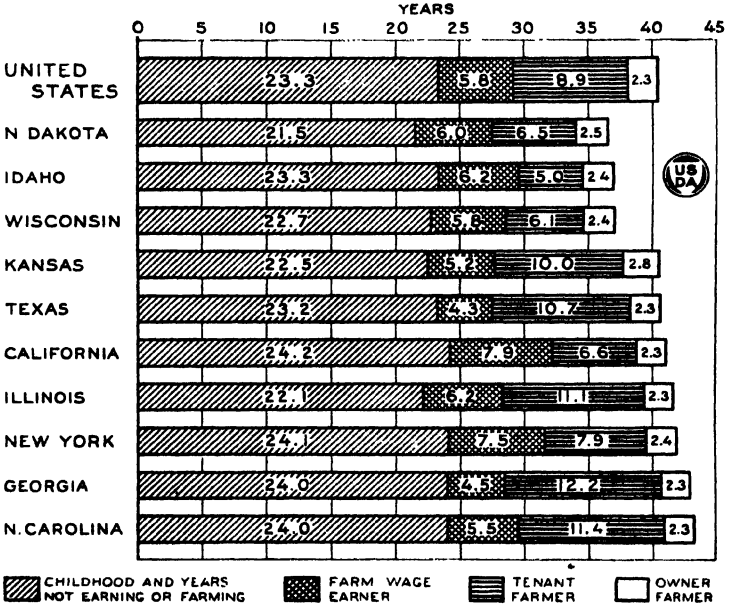

FIG. 53.—The average age of attaining ownership is shown to be 38 years, preceded by an average farm experience of about 15 years as wage laborer and tenant, but varying in different States. It should be noted that the years spent in childhood or nonagricultural work included in most cases work on parents' farms without wages.

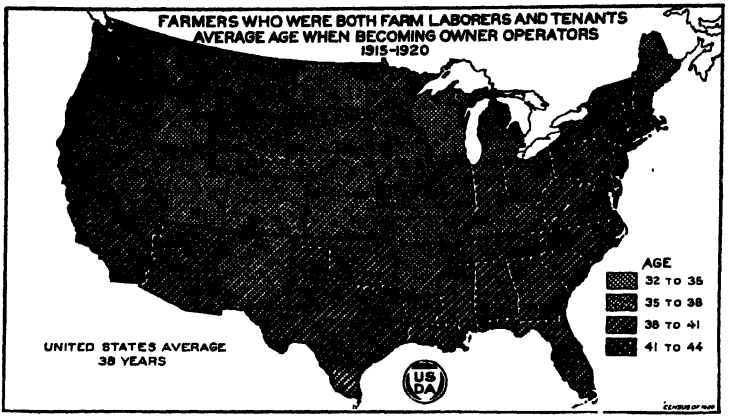

FIG. 54. The map shows no wide range of difference in the averages for the several States, the lowest being 32 years for Utah and the highest 43 for Rhode Island. The average age of acquisition tends to be lowest in the group of States in the northwestern third of the United States. That this is partly due to the influence of migration of young farmers toward the Northwest is indicated by Figure 55.

a longer period than formerly, one might still be in doubt as to the significance of this fact, because of changes in the amount of wealth represented by the average farm. If an average of 15 years were required to rise to full ownership when the average price of a farm is $10,000, and an average of 20 years were similarly required when the average price has increased to $20,000, the change would not necessarily imply retrogression in the opportunity for individual financial progress in the farming industry.

Attempts have been made to determine whether the rate of progress up the tenure ladder is changing by comparing the age grouping of owner farmers or of tenants in different census years. This is illustrated by Figure 56. Apparently the decrease from 1890

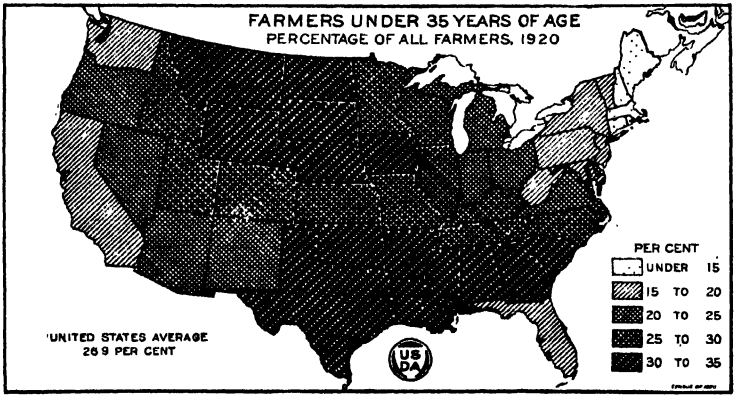

FIG. 55.—The influence of migration from the old-established regions of the Northeast to the newer regions of the Northwest is suggested in this map. In the South the practice of classing croppers as tenants and the small amount of capital required to become a tenant in many parts of the region are responsible for the large proportion of farmers under 35 years of age.

to 1920 for the first three age groups, and particularly for the youngest group, was relatively much greater than for the two oldest age groups. However, this might be due to a large relative increase in the number of tenants in the younger age groups through the

PERCENTAGE OF OWNER FARMERS IN SPECIFIED AGE GROUPS; UNITED STATES, CENSUS 1890–1920.

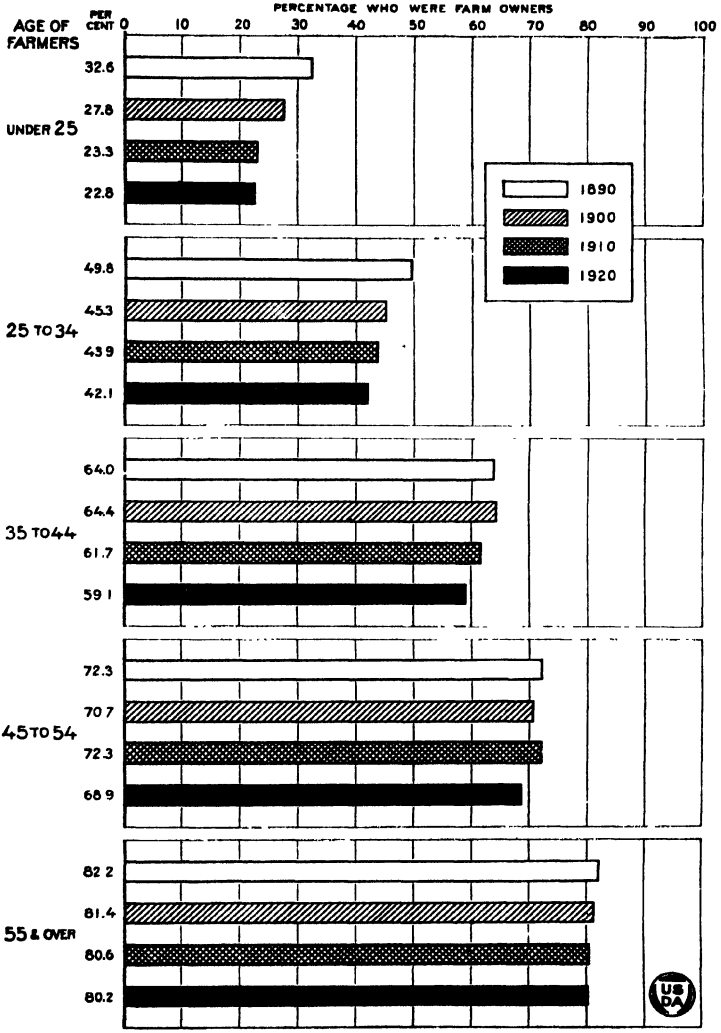

FIG. 56.—Apparently for every age group the percentage of owner farmers was less in 1920 than in any preceding decade. However, when it is recalled that the percentage of owner farmers (including part owners and those operating through managers) declined from 71.6 in 1890 to 61.9 in 1920, it is clear that the tendency indicated was due largely to the fact that the declining percentage of ownership is distributed throughout every age group in successive decades. It should be noted that in the first two census enumerations the percentages are for farm homes, while for the last two decades they are for farms.

process of converting laborers into tenants, especially in the South. Again, it might reflect a retardation in the rate of retirement of the owner farmers in the older age groups.

Other attempts have been made to show the changes at different periods in the average length of time required to attain ownership.

ILLUSTRATION OF EFFECTS OF DOUBLE CLASSIFICATION OF FARM-EXPERIENCE STATISTICS WITHOUT ALLOWANCE FOR REMOVAL BY DEATH, CHANGE TO OTHER INDUSTRIES, OR RETIREMENT. BASED ON SURVEY REPORTS FOR 269 OWNER FARMERS IN KENTUCKY, TENNESSEE, AND TEXAS, 1919.

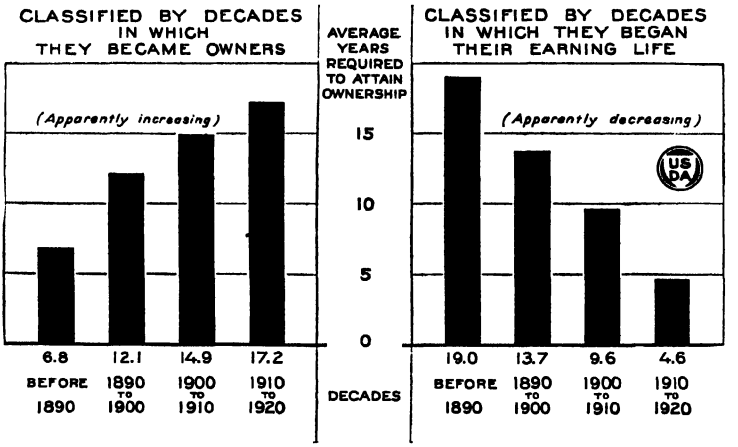

FIG. 57.—The graph shows that because of ignoring the influence of mortality, change to other occupations, and retirement, exactly opposite conclusions are obtained according as one groups the farmers in the order of the decades when ownership was acquired or in the order of the decades when they began the upward climb to ownership. The first system of grouping makes it appear that the period of acquiring ownership has increased nearly threefold. This is due largely to the fact that of those who became owner farmers several decades ago all who required a long time to acquire ownership have died or retired, while those who have recently acquired ownership include a much larger proportion of the slow climbers. On the other hand, when the farmers are grouped in the order of the dates of beginning their earning life, it is made to appear that the average period needed to acquire ownership has steadily decreased. This is due to the fact that in the case of those who began the climb to ownership at an early date the slow, as well as the fast, climbers have had time to achieve ownership, while in the case of those who have recently begun their climb to ownership only the rapid climbers are included in the group, for only these have had time to achieve ownership. Only owner farmers who had received no gratuitous assistance by inheritance, gift, or marriage are included in the graph.

by classifying the owner farmers who have formerly been farm wage laborers and tenants in accordance with the length of time they have been owners and by determining the length of time spent in the preownership stages (fig. 57). However, unless allowance be made for mortality, and change to other industries or retirement, the method is inconclusive.

Figure 58 illustrates a possible method of allowing for the influence of mortality. However, the method employed and any other method which involves allowance for mortality only is necessarily defective because it makes no allowance for retirement or change to other occupations. Theoretically, retirement tends to warp the figures in the same direction as does mortality, namely, by eliminating

the slow climbers, leaving a larger proportion of fast climbers among the survivors.[14]

SOME FACTORS THAT INFLUENCE THE RATE OF PROGRESS IN CLIMBING TO FARM OWNERSHIP.

Studies in methods of acquiring farm ownership have usually accounted only for the direct acquisition of farms by purchase, inheritance, gift, or marriage. The results of a number of such studies are summarized in Table 5. The surveys show a good deal of variation in results. The most extensive survey was that of 24,000 landlords in 24 States. This showed that 79 per cent of the acquired acreage owned was by purchase, 15.3 per cent by inheritance, 3.3 per cent by marriage, and 2.4 per cent in other ways, principally by homesteading. In all the surveys, except the middle western, the percentages of acquisition by inheritance range from 9 to 15.3, but in this survey both inheritance and marriage are relatively more important. Omitting the cases of acquisition by homestead, which were of considerable importance in Nebraska, the farms acquired by owners through inheritance, gift, or marriage range from about 12 to 19

AVERAGE YEARS OF FARM EXPERIENCE AS WAGE EARNERS AND TENANTS REPORTED IN 1920 BY OWNER FARMERS IN KENTUCKY, TENNESSEE, AND TEXAS, CLASSIFIED BY NUMBER OF YEARS THEY HAD BEEN OWNER FARMERS BEFORE 1920, WITH CORRECTION FOR REMOVAL BY DEATH AND REPLACEMENT BY YOUNGER FARMERS.

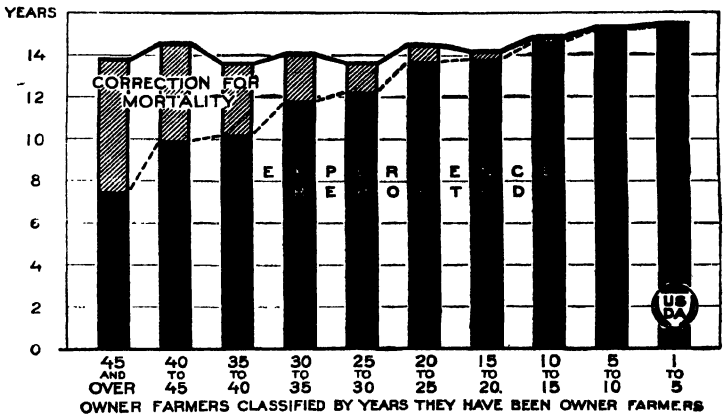

FIG. 58.—The black portion of the column is based on census statistics of the amount of preownership farm experience of owner farmers who before attaining this stage had been both farm-wage earners and farm tenants. Those who had become owner farmers in recent years reported longer terms of preownership farm experience than those who had become owner farmers several decades before. From this fact it might seem that there had been an extension of the apprentice period ordinarily required of those becoming owner farmers. Such a conclusion can not be drawn with confidence from reports given in at any single date, however, because the reports come only from survivors whose experience is less typical of their fellows of past decades the more remote the point of time for which it is sought to make a statistical showing. Allowance must be made for removals and replacements associated with retirements from the occupation, migrations from areas surveyed, and deaths. The probable effect is shown here only for the mortality factor. To allow for this, differences between slow, rapid, and fast climbers, and the proportion of owner farmers in each group were ascertained for at least one survey area in each of the three States and standard mortality statistics applied to the several groups.

[14] This difficulty also applies to the otherwise interesting calculations in the Census monograph entitled "Farm Tenancy in the United States," 1924.

per cent, except for the five North Central States (No. VII), where 33.2 per cent of the farms were reported as acquired by inheritance or marriage. In general, from two-thirds to five-sixths of the farms are shown to have been purchased.

TABLE 5.—*Method of acquisition of farm land as reported in various local surveys.*

Survey or source.	Bases of computation.	Per cent acquired by—				
		Purchase.	Inheritance.	Gift.	Marriage.	Other ways, principally homesteading.
I. Wisconsin [1]	2,051 farms	80.6	9.0	3.5	1.4	5.5
II. 24 States, 23,963 landlords [2]	8,122,828 acres	79.0	15.3	(3)	3.3	2.4
III. Kentucky and Tennessee: [4]						
1. Owners, 845 transactions	71,495 acres	81.2	12.3	0.6	5.9	0
2. Tenants, 123 transactions	17,999 acres	96.8	2.7	0	0.5	0
IV. Massachusetts [5]	710 land transfers	73.2	22.8	2.5	1.4	0
V. Nebraska: [6]						
1. Owned by tenant farmers	60 farms	64.9	12.3	0	3.5	19.3
2. Rented farms owned by owner farmers.	384 farms	82.6	11.4	3.4	0.8	1.8
VI. Texas: [7]						
1. 109 owners	18,544 acres	88.2	5.7	0	6.1	0
2. 29 tenants	2,807 acres	91.6	7.7	0	0.7	0
VII. Five North Central States [8]	Reports of 2,112 farmers.	64.5	24.8	0	8.4	2.1

[1] First farm acquired; questionnaires sent to owner farmers. U. S. Bureau of Agricultural Economics, Division Land Economics, and Wisconsin Agricultural Experiment Station cooperating, 1922; data unpublished.

[2] From questionnaires answered by farm landlords, about three-fourths in the Northern States. Bureau of Agricultural Economics, Division Land Economics, 1920; data unpublished.

[3] Included under "Inheritance."

[4] Local surveys by Bureau of Agricultural Economics, Division Land Economics, in cooperation with agricultural experiment stations in respective States, 1919 and 1920; data unpublished.

[5] Local surveys by Massachusetts Agricultural College. Results published in *Journal of Farm Economics*, Vol. 5, No. 4, October, 1923.

[6] Local surveys by Bureau of Agricultural Economics, Divisions Land Economics and Farm Population, and Nebraska Agricultural Experiment Station cooperating, 1923; data unpublished.

[7] Local survey by United States Department of Agriculture, 1919. See Department Bulletin 1068, Farm Ownership and Tenancy in the Black Prairie of Texas.

[8] Local surveys by United States Department of Agriculture, summarized in *American Economic Review*, Vol. IX, No. 1, December, 1918.

Since many of the farms reported as acquired by inheritance, gift, or marriage were encumbered with debt, the actual equities acquired by the farmers were considerably less. Averages for 10 local surveys in various parts of the United States [15] indicate that the actual equities in farm real estate obtained directly by inheritance, gift, or marriage were about 12 per cent of the net worth of owner farmers, and 8 per cent of the net worth of tenants. By far the largest source of gratuitously acquired wealth was increase of land valuations, which amounted to 43 per cent for owner farmers and 11 per cent for tenants. Operating owners had "earned" 45 per cent of their net worth and tenants, 76 per cent.

These figures take into account only the proportion of the farms or of the net worth of the farmers represented by the equities in farms owned at the time of the surveys. Such a cross-section does not give a complete history of the farmers' financial progress. In

[15] These surveys are as follows: One each in Illinois and Indiana by the Interchurch World Movement; a survey in Iowa, in Missouri, and in Georgia, by the Bureau of Agricultural Economics, Division of Farm Population; surveys in Texas, Nebraska (nine localities), Kentucky, and in Tennessee (two localities) by the Bureau of Agricultural Economics, Division of Land Economics. State universities cooperated in the Nebraska, Kentucky, and Tennessee surveys.

local surveys made in Texas, Tennessee, and Kentucky, figures were obtained concerning every farm that had ever been acquired by the farmers interviewed and concerning all wealth gratuitously acquired by them and the extent to which this wealth had contributed to farm ownership.

Of the 968 acquisitions of farm land, much of which had been resold, only 15.7 per cent of the total acreage was reported as acquired directly by inheritance, gift, or marriage; but of the total valuation of the 968 farms at the time they were acquired, 32.5 per cent was wealth received by inheritance, gift, or marriage. However, many of these farms were obtained by means of wealth gratuitously acquired, the land having been held for a time and then sold at a large advance in price, and the original amount plus its net increase again invested in land. The original amount of wealth gratuitously acquired, plus its net increase when used for purchasing land, amounted to 47.1 per cent of the total acquisition valuation of these 968 farms.[16] This is approximately three times the percentage of acreage shown to be directly acquired by inheritance, gift, or marriage.

The receipt of wealth gratuitously also enhances the individual's power of accumulation. The studies in Texas, Tennessee, and Kentucky show that 64 per cent of the farmers succeeded in acquiring the ownership of their first farms without the assistance of wealth acquired gratuitously. There were 141 farmers who received gratuitous assistance and who at the time of beginning as owner farmers controlled an average wealth of $8,050. They had obtained an average of $3,847 gratuitously and had borrowed $2,180, leaving $2,023 which is to be accounted for by accumulation. There were 255 farmers who climbed to ownership without gratuitous assistance and who at the time of beginning as owner farmers controlled an average wealth of $4,311. These had borrowed an average of $2,049 and had accumulated an average of $2,262. But the first group had been 10 years in the process, while the latter group had required nearly 15 years. Stated in another way, the receipt of the gratuitous wealth increased the rate of accumulation 31 per cent.

The Possibilities of Acquiring Farms Out of the Income from Farming.

By analyzing the incomes of farmers, as indicated by local surveys, some students of the subject have reached the conclusion that climbing to farm ownership without the aid of wealth gratuitously acquired has become a protracted and difficult process.[17] Table 6 summarizes the results of a large number of local surveys. The surveys cover a period of about eight years, but it is probable that taken as a whole they indicate the nature of the financial problem of acquiring a farm in the United States.[18] The table shows the average amount of initial payment that would be necessary in order that the entire valuation of the farm may be amortized in given periods of time, allowing for interest on indebtedness at the rate prevailing on farm mortgages in the particular regions, and deducting certain amounts for family living expenses.

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[16] The importance of these aids to farm ownership would, of course, be different during a time when land valuations were not rapidly rising.

[17] See article by George Stewart, "Can Farms Pay for Themselves?" Journal of Farm Economics, Vol. III, No. 3.

[18] In so far as the difference in years makes a difference in the valuation of the farms, there is a tendency toward corresponding changes in income.

TABLE 6.—*Size of initial payment that would be necessary at time of purchase in order to amortize debt on farm in 10, 20, or 30 years, when family uses $300 or $600 annually from farm income for expenses.*[1]

Regions studied.	Date of survey.	Average capital per farm.	Farm income.	Mortgage interest rate (per cent).	Initial payments required to amortize debt in the following number of years with the indicated annual allowance for expenses.					
					10 years.		20 years.		30 years.	
					$300	$600	$300	$600	$300	$600
New Hampshire, Hillsborough County	1918	$8,054	$879	5.5	$3,689	$5,951	$1,134	$4,720	$1,092	$3,999
New York, Tompkins County	1911	5,527	757	5.6	2,115	4,365	107	3,661	0	3,275
New Jersey, Monmouth County	1916	19,165	1,699	5.8	8,774	11,003	2,856	6,253	0	3,712
Pennsylvania, Chester County	1916	10,486	1,313	5.8	2,964	5,193	0	2,180	0	605
Maryland, Frederick County	1919	27,885	3,049	6.0	7,652	9,860	0	0	0	0
Ohio, Washington County	1912–1916	5,652	443	6.1	4,607	(2)	4,027	(2)	3,716	(2)
Do	1920	11,049	778	6.1	7,546	9,745	5,611	9,024	4,539	8,625
Indiana:										
Clinton and Tipton Counties	1914	17,535	1,187	6.2	11,233	13,419	7,535	10,919	5,588	9,627
Clinton County	1918	25,958	1,856	6.2	14,612	15,799	8,398	11,783	4,990	9,032
Illinois:										
Case and Menard Counties	1914	51,091	3,176	6.0	29,918	32,126	18,100	21,542	11,493	15,623
Kane County	1918	37,896	2,766	6.0	19,747	21,955	9,578	13,019	3,950	8,080
Iowa:										
Green and Guthrie Counties	1914	23,193	1,450	5.9	14,686	16,904	9,897	13,366	7,192	11,364
Tama, Blackhawk, and Grundy Counties	1918	63,926	4,578	7.5	34,562	36,621	18,957	23,350	13,400	18,277
Nebraska, Madison, Platte, Merrick, and Richardson Counties	1916	26,646	1,717	7.1	16,749	18,846	11,781	14,931	9,283	12,961
Kentucky, Blue Grass Counties	1917	37,793	2,576	7.1	21,892	23,988	13,902	17,052	9,884	13,562
Missouri, Monett County	1918	9,033	822	6.8	5,335	7,461	3,429	6,653	2,427	6,218
Michigan, Lenawee County	1918	11,756	1,068	6.6	6,322	8,468	3,374	6,650	1,845	5,716
Wisconsin, Green County	1918	31,036	1,940	5.8	18,848	21,077	11,924	15,421	7,999	12,217
Minnesota, Rice County	1907	14,636	1,170	6.8	8,467	10,593	5,288	8,512	3,640	7,432
Georgia, Sumter County	1917	15,781	1,712	8.7	6,605	8,555	2,619	5,415	946	4,097
Do	1918	27,118	3,711	8.7	4,939	6,889	0	0	0	0
Georgia, Brooks County	1918	8,992	952	8.7	4,752	6,703	2,917	5,713	2,038	5,190
South Carolina, Anderson County	1918	5,529	404	8.4	4,843	(2)	4,535	(2)	4,402	(2)
Florida:										
Hillsborough County	1921	7,475	1,221	9.0	1,562	3,488	0	1,806	0	1,095
Polk County	1921	44,813	5,845	9.0	9,214	11,140	0	0	0	0
Texas, Ellis County	1918	16,019	1,457	9.0	8,596	10,521	5,472	8,209	4,208	7,273
Montana:										
Gallatin Valley	1914	27,173	2,185	10.0	16,205	18,048	11,120	13,674	9,554	12,395
Billings area	1915	14,904	1,653	10.0	6,590	8,433	3,385	5,939	2,151	4,979
Utah, Provo area	1918	11,688	1,312	9.0	5,196	7,121	2,453	5,354	1,348	4,413
Arizona, Salt River Valley	1918	20,706	2,370	9.4	7,647	9,593	2,270	4,931	315	3,270
Oregon, Willamette Valley	1918	22,699	1,322	8.0	15,842	17,855	12,667	15,613	11,190	14,567
Washington and Idaho, Palouse area	1920	15,978	1,766	8.0	36,141	38,154	31,684	34,529	29,473	32,850

[1] This table is reprinted from Farmers' Bulletin 1385, "Buying a Farm in an Undeveloped Region."

[2] These farms yield less than $600 annual income.

In a sense, the deduction of a fixed amount of income for family living places some of the low-valued farms at a disadvantage as compared with high-valued farms. This is shown by comparing the Illinois farms averaging $51,091 with the South Carolina farms averaging $5,529. In the first case, $600 is less than one-fifth of the total farm income, while in the second case $600 a year is really more than the average farm can afford, being larger than the average farm income.

In none of the survey areas, except the Pennsylvania area, is it possible, on the average, to employ $600 for living expense and to pay for the farm in 10 years without a much larger initial payment than usually is possible. Farmers in the two Georgia areas could probably pay out in 10 years by initial payments of approximately 50 per cent, if the interest on indebtedness were, say, 6 per cent instead of approximately 9 per cent.

In the Illinois areas an initial payment amounting to only a third of the purchase price would be required in order to pay out in 20 years, but even so, the initial payment is very large, amounting to $21,542. On the other hand, in the Nebraska area, an initial payment of more than 50 per cent would be required (partly due to the somewhat higher interest rate), but because of the lower price of the real estate the initial payment would amount to only $14,931. Various other surveys in the northern portions of the Middle West indicate that, on the average, farms could be paid for in 20 years by making initial payments varying from 35 to 60 per cent of the purchase price and in amounts varying from $7,000 to $15,000. In some portions of the South and West employment of the lower rates made possible by the land banks of the Federal farm loan system should make a more favorable showing.

It is true that the above figures assume a deduction of only $600 for family expenses, but in practically all of the cases this would be in addition to the living furnished by the farm. Furthermore, the value of labor of members of the farm family other than the operator was deducted as an expense in arriving at farm income. This amount would be available either to increase the allowance for family living or to augment accumulations.

It must be noted also that the figures given in Table 6 are averages. Undoubtedly many farmers, more efficient than the average, were capable of paying for a farm more rapidly than the rate shown in the table. Others below the average in efficiency probably were unable to make more than living expenses.

The figures in Table 6 may arouse either optimism or pessimism according to the point of view. On the one hand, it may be a good showing that in most of the districts surveyed it is possible to accumulate from two-fifths to four-fifths of the valuation of a farm within a period of 20 years, provided one has the remaining fraction of the purchase price to deposit as an initial payment. But it should be noted that for the man who starts without capital there is also to be added the long period required to accumulate the initial payment; and the rate of accumulation in this period is necessarily much slower than it is after the initial payment has been accumulated.

The largest and most difficult step in the land tenure ladder has been that from tenant to mortgaged owner (fig. 59). After two

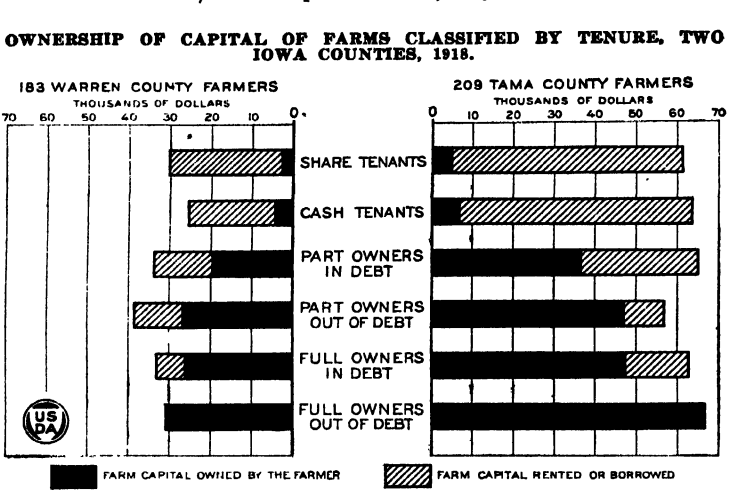

FIG. 59.—In both counties there is an increase in the average amount of operator's equity in farm capital in each successive stage of the tenure ladder with the exception that the equity of full owners in debt is no larger than that of part owners out of debt. The large difference between the average equity of tenants and that of owner farmers suggests the magnitude of the problem of accumulation of wealth prior to the attainment of farm ownership. Statistics are from a survey in 1918 made by United States Department of Agriculture (Office of Farm Management and Farm Economics) cooperating with the Iowa Agricultural Experiment Station.

decades or more of rising prices of farm products and real estate it is not surprising, however, that in 1920 many farmers were owners of farms which they had purchased under encumbrance (figs. 60 and 61). Let us assume that tenants earn the average farm incomes shown in Table 6 and start without capital, but agree to pay rentals at the same rates as the mortgage rates of interests shown in Table

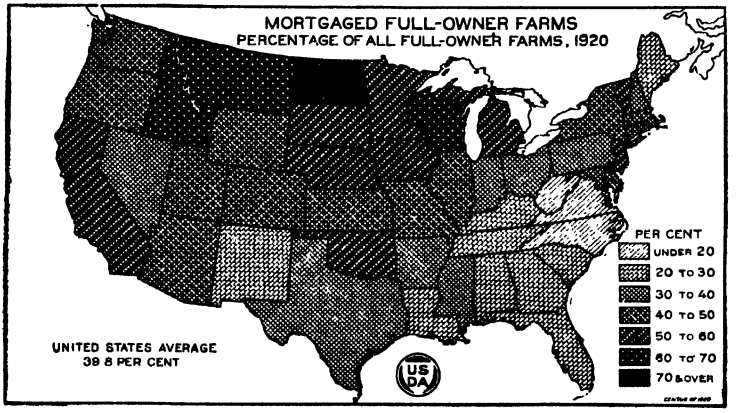

FIG. 60.—In 1920 about 40 per cent of the farms of full owners reporting were mortgaged. The mortgage indebtedness averaged $3,356, or 29.1 per cent of the average valuation of these mortgaged farms. Mortgage indebtedness may be an indication either of adversity or of activity in climbing to ownership, in improving farm real estate, and in acquiring more efficient forms of operating capital. The greatest percentages in 1920 are found in newer sections or in sections where the valuation of farm real estate had increased rapidly.

6 for the respective districts. How long a period would be required to accumulate the initial payment necessary to make it possible to pay for the remainder of the farm capital in 20 years? An analysis of the figures shows that in only one district, the Pennsylvania area, would it have been possible under these assumptions to accumulate anything at all. In all the other districts there would be deficits averaging from $13 to $1,132 per annum, after deducting the mortgage rate of interest on the total farm capital and $600 per year for family living. In five of the districts the deficit would be more than $600; in the others, less, indicating the possibility in the latter districts of making something toward family living after deducting interest on the farm capital, but not deducting as much as $600 per year.

It may be alleged that tenants do not have to pay rental rates as high as the prevailing rates on mortgage indebtedness. This is true

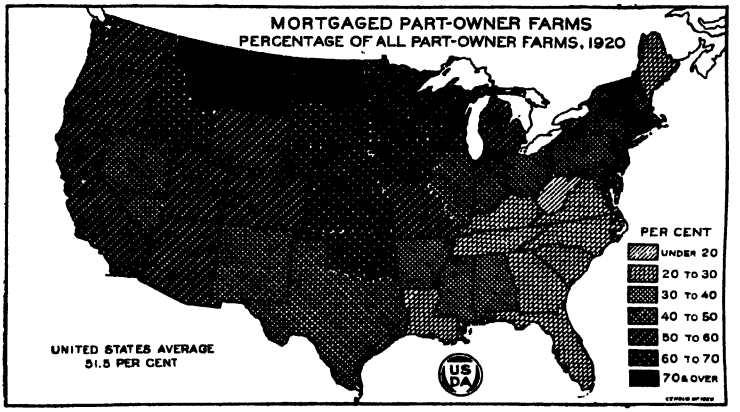

FIG. 61.—In 1920 about half of all part owners reporting were operating farms of which the parts owned by them were mortgaged. No information is available in the census as to the mortgages on the rented portion of such farms or concerning mortgages on farms operated by tenants. A comparison of the above map with Figure 61 shows that the regions where mortgages are most prevalent are much the same for part-owner farms as for farms operated by full owners.

of cash rentals in some of the regions. Figure 41 indicates that in most of the North Central districts the ratios of cash rents to real estate valuations average only about half or less than half the mortgage rates shown for the same districts in Table 6. Although the figures on average cash rents are not available for the precise areas covered in the above surveys, average cash rents in the North Atlantic States, the South, and the Western States do not appear to be much, if any, lower than the mortgage rates shown for the corresponding districts. Furthermore, it is probable that even in the Corn Belt average ratios of share rents to real estate valuations are at least as high as the mortgage rates of interest shown in the table.

The above facts seem to point to the following conclusions. If tenants are to accumulate enough to make the initial payment on a farm under the conditions shown in Table 6, they must do so by one or more of the following means: (1) Make their farms earn higher incomes than the averages shown in Table 6; (2) obtain the use of

the farm real estate at rental rates lower than the mortgage rates of interest prevailing in the respective regions; (3) own part or all of their operating capital when they become tenants—a condition characteristic of the majority of tenants; (4) live on less than $600 per year in addition to what the farm supplies in kind;[19] (5) reduce the expenses of production below those given in Table 6 by employing the labor of members of the family without wages. This last is a possibility of considerable importance, for, as noted, the farm incomes shown in the table were calculated by deducting an estimated wage for the unpaid labor of the farm family (not including that of the operator) as an expense of production. Studies of the labor contributed by members of the families show that over a series of years such labor had an average annual valuation of $211 on a group of 60 Wisconsin farms. This is 21 per cent of the expenses on these farms. On a group of 25 Ohio farms the average was $96, or 20 per cent of all expenses, and on a group of 100 Indiana farms it was $81, or 9 per cent of all expenses.

That by some of the above means tenants in large numbers have succeeded without gratuitous assistance in accumulating the necessary funds for making the initial payments required for the purchase of farms is shown abundantly by the statistics as to progress on the agricultural ladder. On the other hand, the analysis of the income figures have demonstrated that under average conditions the process has become one of no small difficulty in many parts of the United States. In fact, there is reason to believe that increase in the valuation of land has been a large factor in enabling purchasers of farms to refund or repay the indebtedness incurred, even though it may have tended to discourage many from attempting to buy and to increase the difficulty of the purchaser in the early stages of repayment.

Summary of Classes of Tenants in the United States.

The preceding discussion has indicated that the farm tenants of the United States include a number of quite different classes:

1. Persons who are statistically classed as tenants, but who generally are not tenants at all in law and who from an economic point of view are probably more logically considered as laborers than as tenants. This class (croppers) comprised in 1920 nearly 23 per cent of all so-called tenants.

2. A large group of farmers, including probably the majority of the croppers, who may never rise to ownership largely because of personal limitations, such as lack of adequate education and training, thriftlessness, inertia, instability, and unwillingness to assume risks.

3. A large group for whom tenancy is either an initial or an intermediate step toward ownership.

4. A smaller group who, having become operating owners, have reverted to tenancy through inability to maintain the position of owners.

5. A comparatively small group, who, although financially able to purchase farms, prefer to be tenants either because of certain tem-

[19] It should be noted that most of the surveys do not reflect the decrease in the value of the dollar which resulted from the World War. Probably, the $600 represented a larger amount of purchasing power at the time the surveys were taken than it would represent at present.

porary circumstances mentioned above or because they prefer other forms of investment for their capital.

Relation of Types of Tenure to Efficiency in Farm Operations.

In considering the financial problem which confronts the tenant farmer in accumulating the means of paying for a farm, it was assumed for illustrative purposes that, on a given class of farms, tenants could earn, on the average, as large a farm income, that is, income from both the owned and rented capital as owner farmers earn on the corresponding capital. This raises a question on which a certain amount of information is available. At the outset we are confronted by the fact that in certain parts of the country the kinds of farms operated by the various tenure classes differ considerably.

Differences in Acreage.

First, there are differences in size of farms operated by tenants as compared with owners (fig. 62). In the South, the average size

AVERAGE IMPROVED AND UNIMPROVED ACREAGE OF FARMS, OWNERS, PART OWNERS, AND TENANTS; THE SOUTH COMPARED WITH THE NORTH AND WEST, CENSUS OF 1920.

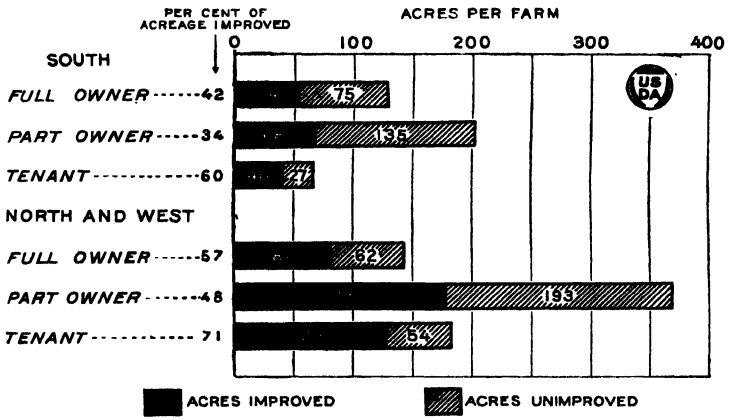

FIG. 62.—The larger average acreage both of improved and of unimproved land operated by owners in the South as compared with tenants is partly due to the practice of counting as farms the various subdivisions of plantations worked by croppers and partly to the continuance in the South of large farms and plantations worked by hired laborers. In the North and West the larger acreage, both total and improved, operated by tenants and part owners is owing partly to the fact that they need less capital to increase the acreage farmed than do full owners and partly to the fact that the larger farms provide the larger incomes. The unusually large average size of part-owner farms is also due partly to the prevalence of such farms in subhumid regions and other regions where the average size of all classes of farms is larger than for the country as a whole.

of tenant farms is much smaller than that of owner farms, while the opposite condition generally prevails in the North and West. The census of 1920 showed that in 20 States the average size of tenant farms was less than that of farms operated by full owners. Fifteen of these were Southern States, three were in New England, and the other two were Missouri and Utah. On the basis of the average improved acreage per farm the tenant farms were smaller only in the South and in Maine.

The average size of so-called tenant farms in the South is to be traced in part to the anomalous statistical results occasioned by the plantation system. Thus, if a Southern planter operates a thousand acres by wage labor—and there are many such large units in the South—the entire area is counted a single farm; but if the planter operates the same thousand acres by means of 30 croppers, even though he controls and directs the management of the whole as before, the entire unit is counted as 30 farms. If the assumed plantation is composed of 400 acres of crop land and 600 acres in timber or suitable only for grazing or crops other than cotton, the planter is likely to let only the cotton land to croppers and tenants, retaining the remainder under direct operation. In short, the great contrast between North and South in size of farms operated by owners and tenants is owing in large part to the practice of counting as separate farms small tracts of crop land which are integral parts of large cotton plantations or tobacco farms.

In the North the tendency for tenant farms and those operated by part owners to be larger, on the average, than those of owning operators reflects several factors. In the first place, a larger proportion of owner farmers are old men who are gradually retiring from farming and reducing the size of their holdings or selling out and buying smaller farms. Also, many owners have been prevented, from lack of capital or through inertia, from acquiring by purchase holdings as large as they could operate effectively. On the other hand, the fact that a man rents additional land shows that he is attempting to expand his holding to a more efficient size, and in renting land both tenants and part owners are less hampered by lack of capital in expanding their holdings than are owner farmers.

Figure 62 also indicates the tendency, characteristic of all but 3 of the 48 States, for tenant farms to contain a larger proportion of improved land than those of other classes of operators. This reflects the fact that a combination of circumstances causes tenancy to predominate in sections of the country where a large proportion of the land is adapted to crop production. However, in a number of good farming regions of the North, as shown by local surveys, the difference between tenants and owner farmers in this regard is not important.

Differences in Importance of Livestock.

Livestock is a smaller factor in the organization of tenant farms than in that of farms operated by owners. This difference is the occasion for a great deal of the concern with which tenancy is viewed in this country. In 1920 for the United States as a whole the valuation of livestock on tenant farms per acre of improved land was only 79 per cent of the corresponding figure for farms operated by owners, while the valuation of livestock on tenant farms per $100 worth of farm real estate was only 74 per cent of the corresponding figure for owner farms. Viewing the matter by States the same tendencies generally prevail. The valuation of livestock per acre of improved land was notably greater for tenant farms only in some of the New England States where tenant farms are but a small proportion of the total number. However, in several of the Middle Atlantic States, and in Ohio, Kentucky, Michigan, and Wisconsin, the two classes

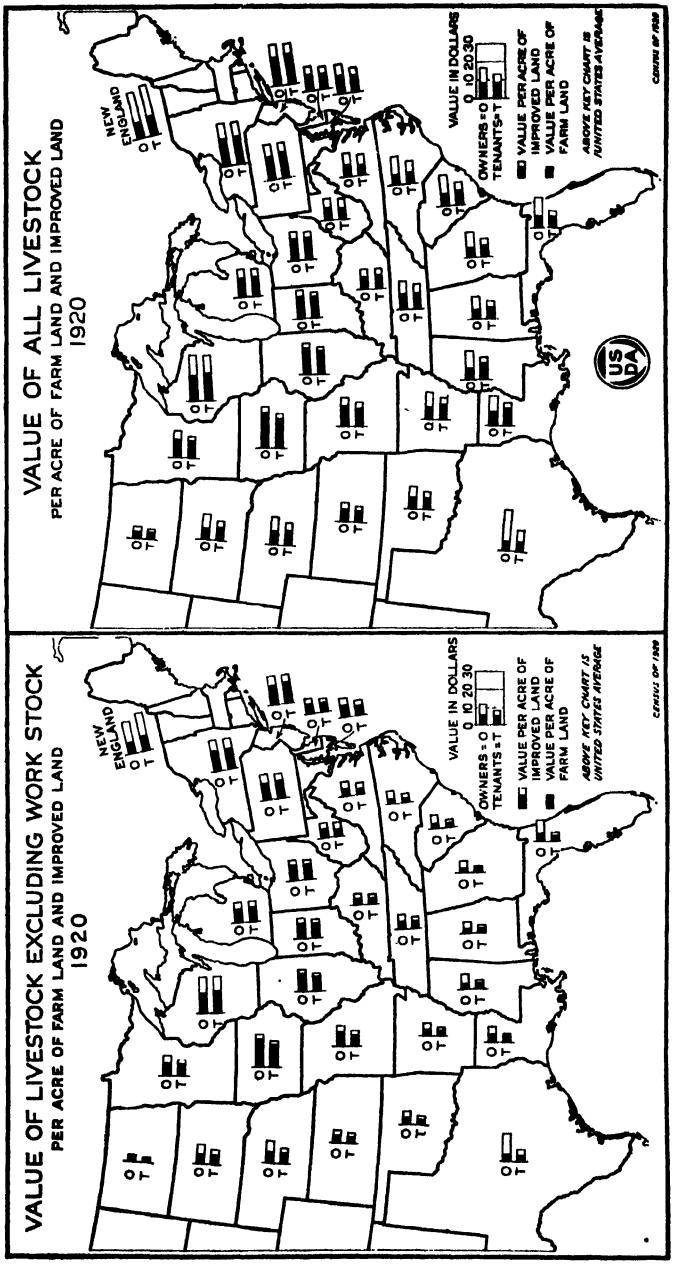

FIG. 63.—Eleven Western States are excluded from this graph because a large acreage of the pasture land is not in farms and is consequently not reported by the census. In the States shown here it is apparent that while owner farmers usually show higher average valuations of livestock per acre than do tenants, a few of the State averages show the reverse. Excluding work stock reduces the relative favorableness of the tenant showing. Much of the apparent disadvantage under which tenants stand in State averages used in comparisons of this sort lies in the fact that tenants are more prevalent in those parts of the States in which neither tenants nor owner farms engage in livestock production than in those parts where livestock is an important factor in farm economy.

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are nearly equal in the valuation of livestock per acre of improved land. In most of the other Northern States east of the Rocky Mountains the valuation of livestock per acre of improved land on tenant farms ranges from 80 to 90 per cent of the corresponding figure for the farms of operating owners. In some of the Southern

PROPORTION OF TOTAL FARM INVESTMENT IN LIVESTOCK OTHER THAN WORK STOCK, OWNER FARMERS COMPARED WITH TENANTS; FOUR FARM SURVEY AREAS.

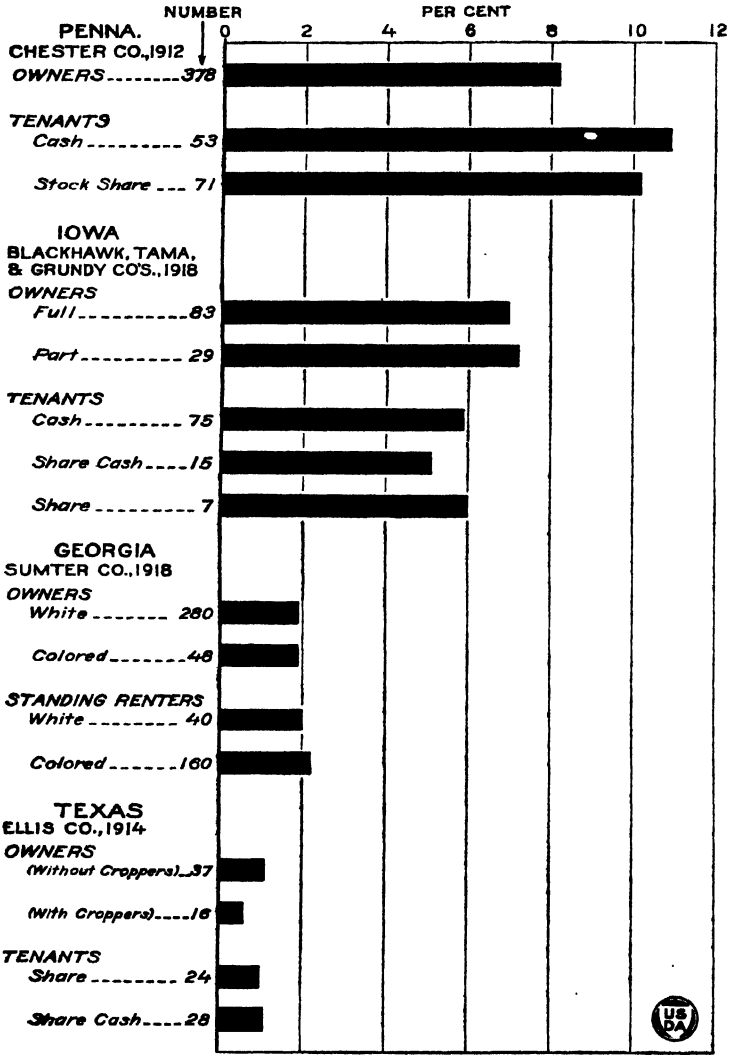

FIG. 64.—The relative place occupied by dairy cattle and meat animals is not always smaller in the case of farms operated by tenants than for farms operated by owners in the same localities. Moreover, tenants in some localities employ such livestock much more extensively than do owner farmers in other localities. The results shown are for a single year in each survey.

States and the western range States the valuation of all livestock per acre on tenant farms is less than on farms operated by owners (fig. 63). When work animals are deducted, the tendency in some States for the valuation of livestock per acre to be greater on tenant farms than on farms operated by owners is less evident. Results of a number of surveys also show that in some of the districts surveyed the proportion of total farm capital invested in livestock other than work animals is larger for the tenant farms, or at least for certain classes of tenant farms than for farms operated by owners (fig. 64).

The statistics by States reflect the disproportionate distribution of owners and tenants in parts of the country where livestock are numerous in proportion to the acreage of improved land. Thus, tenants are a comparatively small percentage of farm operators in the great range areas of the West, in the pasture lands of the Appalachian and Ozark regions, and in the dairy regions of New England, New York, and Lake States. The predominance of farming by owners in regions of livestock production tends to weight the average valuation of live stock per acre of improved land unduly in favor of this class of farms. When the two tenure classes are compared in regions where livestock husbandry prevails, as, for instance, in the dairy States, the disparity indicated above is not necessarily shown. In the South, so-called tenant farming is frequently an arrangement by which a plantation operator employs croppers to work the crop land under the planter's direction, while he maintains the livestock by employing wage laborers. In short, the fact that men rent land instead of owning it is not in itself a fundamental reason why they can not engage extensively in livestock husbandry. In England, for instance, a country where livestock is a large factor in farm economy, nearly 90 per cent of the farms are operated by tenants.

Differences in Diversification of Crops.

It is frequently assumed that tenant farming results in less diversification of crops than does farming by owners. Averages for the United States as a whole or for particular sections appear to sustain such a conclusion. However, this is largely due to the fact that tenant farms predominate in regions where the so-called one-crop system of farming prevails and to the tendency on Southern plantations to work the cotton or tobacco land by means of croppers and tenants. In the general farming regions of the North local surveys do not indicate that tenant farmers uniformly practice less crop diversification than is practiced by owner farmers in the same localities (fig. 65).

Differences in Yields per Acre.

The comparative efficiency of tenants and owners may be partly reflected in yield per acre of crop land. It is clear that general comparisons for large statistical units such as States may result in misleading conclusions for the reason already mentioned, namely, the unequal distribution of the tenants and owners on land of different character and quality. Even for local surveys it is not always clear that the two classes of farmers occupy farm land of the same average quality. However, comparisons of yield per acre for a number of surveys do not point to definite conclusions. In some surveys tenant farms show a higher average yield, while in other

surveys the advantage is with owner farmers (fig. 66). In short, it appears that the question whether tenants or owner farmers are the

CROP DIVERSITY AS INDICATED BY PERCENTAGE OF CROP LAND IN DIFFERENT CROPS, OWNERS COMPARED WITH TENANTS; FIVE FARM SURVEY AREAS.

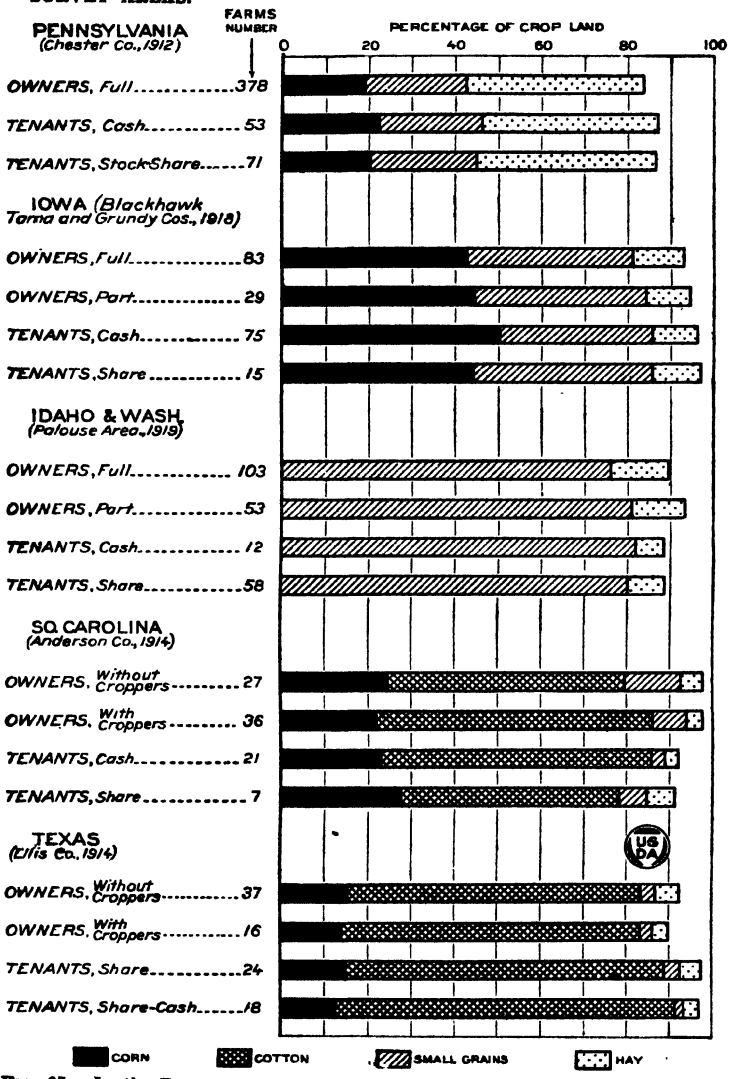

FIG. 65.—In the Pennsylvania and Iowa surveys no important differences are shown in crop selection as between tenants and owner farmers, except that cash tenants place a little more emphasis on corn than do other classes of operators. In the three regions characterized by the one-crop system—that is, wheat in the Palouse area and cotton in the two Southern areas—there is slightly more concentration by tenants on the principal money crop. In the South this frequently represents a deliberate division of enterprises on plantations operated as units, the croppers and tenants being employed in the production of cotton, while the plantation operator carries on by hired labor such crop diversification, as well as livestock production, as he considers economically desirable from the standpoint of the plantation as a whole. The results shown are only for a single year in each survey.

more efficient as measured by crop production per acre can not be conclusively answered except with reference to the particular locality under consideration.

YIELD PER ACRE OF CORN, OATS, HAY, AND COTTON, OWNER FARMERS COMPARED WITH TENANTS; FIVE FARM SURVEY AREAS.

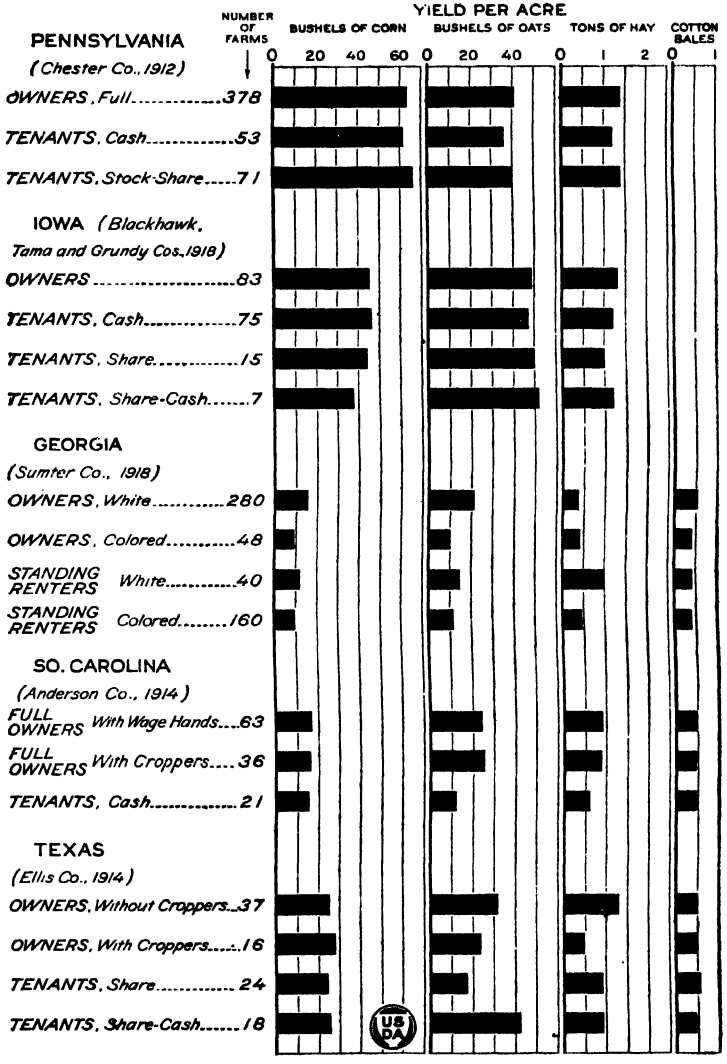

FIG. 66.—This graph shows the danger of generalizing as to yields per acre on rented as compared with owner-operated land even within the same localities. Just as tenants usually occupy a proportion of the highly productive land in a State or geographic division that is larger than their numbers alone might indicate, so also they often lease a disproportionately large amount of the more productive land in local areas. When showing higher average yields than owners, little proof is afforded that the tenants themselves are better farmers than the owner farmers. The reverse holds in like manner. The results shown are only for a single year in each survey.

Differences in Farm Income.

The relative efficiency of the several classes of farmers may also be compared in terms of ability to make the farm yield farm income, that is, net income for the business as a whole without reference to its distribution in the form of rent and interest among the several classes who furnish the farm capital or in the form of wages for the farmer's time. In order to allow for possible differences in the size of the business as between the several classes, farm income is expressed as a percentage of farm capital (fig. 67). The results of the surveys shown in this graph, as well as the results of other surveys, indicate that in the northern areas tenants are not notably inferior to owner farmers in their ability to make their farms yield farm income, and in a number of surveys are shown to be slightly superior. In the southern surveys tenants earned larger average farm incomes than did owner farmers employing croppers, and share or share-cash tenants earned farm incomes approximately equal to or exceeding those of owner farmers operating without croppers.

In general, the available statistics indicate that efficiency is less a matter of the class of tenure than it is of the personal qualities of the farmer, the character of the land, and the adequacy of farm equipment and operating capital.

Interrelation of Form of Tenure With Progress in Accumulation, Education, and Standard of Living.

Various local tenure surveys have supplied a steadily increasing body of statistics which show contrasts in the educational advantages, and standard of living of tenants as compared with owner farmers.

Comparative Educational Advantages.

The interdependence of success in accumulating wealth with the educational advantages of various classes of farm operators and their children is shown in Table 7.

TABLE 7.—*The relation of education to tenure and ability to accumulate wealth from earnings, 1,066 farm operators and their families, in Texas, Tennessee, and Kentucky, 1919–1920* [1].

Farmers classified by tenure and by rank as accumulators of wealth.[2]	Average grade in school attained by farmers.		Average grade in school attained by wives of farmers.		Average grade in school attained by children above 21 years.	
	Number.	Average grade.	Number.	Average grade.	Number.	Average grade.
Croppers:						
Poorest	70	3.3	63	4.2	79	5.6
Medium	76	3.6	75	4.9	40	4.1
Best	76	4.6	68	5.2	18	4.3
Tenants:						
Poorest	132	5.0	126	5.6	79	6.7
Medium	128	5.0	122	5.4	77	7.1
Best	132	6.2	120	7.1	41	8.1
Owners:						
Poorest	151	5.7	137	6.4	178	7.9
Medium	152	6.3	143	7.0	170	8.3
Best	149	7.4	139	8.0	110	10.7

[1] The survey in Texas was made in a number of Black Prairie counties. See United States Department of Agriculture Bulletin 1068. The surveys in middle and west Tennessee and the bluegrass district of Kentucky were made by the Bureau of Agricultural Economics, Division of Land Economics, in cooperation with the Experiment Stations of the respective States.

[2] This distinction is based on the average annual wealth saved, after excluding wealth received from inheritance, gift, and marriage, and wealth secured by net increases in the valuation of land which had been owned by operators. The average annual accumulation for each farmer was also divided by the average index number of prices for the years during which the saving was made, thus partly, at least, eliminating the effects of changes in purchasing power of the dollar as affecting accumulations made at different periods of time.

Each class of owner farmers had attained a higher grade in school than the corresponding class of tenants, and each class of tenants had attained a higher grade than the corresponding class

RATIO OF FARM INCOME TO TOTAL FARM CAPITAL AND PERCENTAGE LANDLORDS RECEIVED ON THEIR RENTED PROPERTY; FIVE FARM SURVEY AREAS.

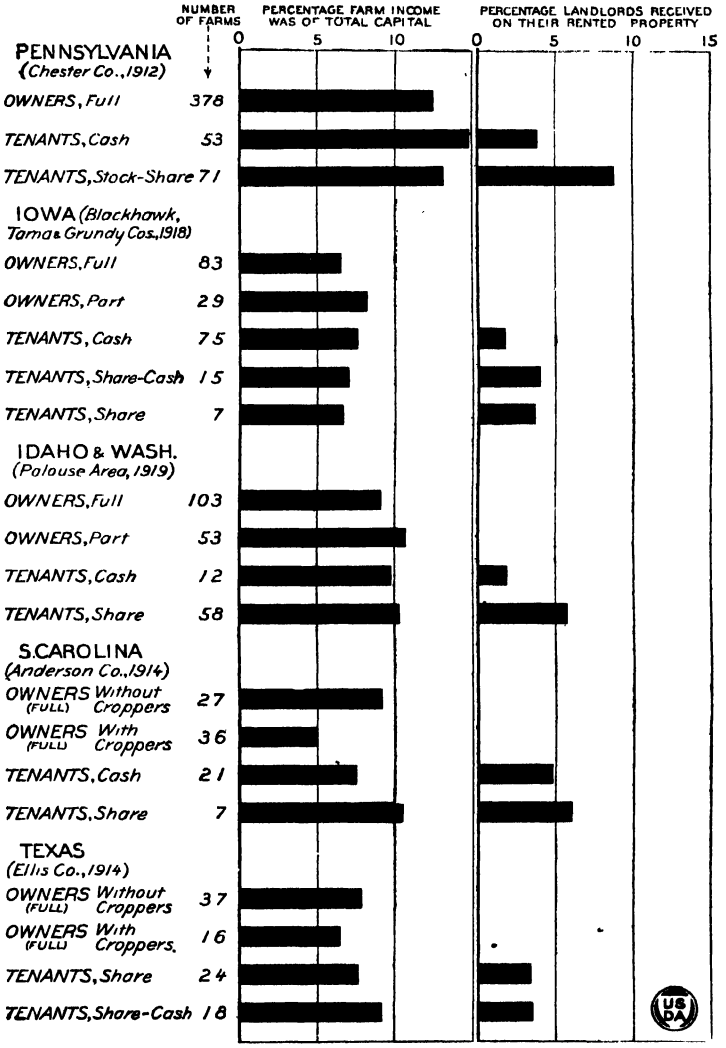

FIG. 67.—The percentage of farm income to farm capital in an area is a rough measure of the comparative efficiency of the several tenure classes. In the northern areas the percentages of farm income to farm capital for the various classes of tenants are higher than for full owners, but somewhat less than for part owners. In the southern areas owners working with croppers made a much poorer showing than did owners without croppers. The results, of course, are only for a single year, and therefore are not conclusive.

of croppers. Within each tenure class the average school grade reached was found to be directly related to efficiency in accumulation, the best accumulators having previously attained the highest grade; the medium accumulators the next highest; and the poorest accumulators the lowest. However, progress in accumulation may be due in part to the superior educational advantages, and in part to the greater facility of accumulation made possible by gratuitous receipt of wealth. Moreover, the results shown may reflect to some extent a selective process which causes the more intelligent to profit by the opportunity for education afforded by progress in accumulation, while the latter is in a sense a result of superior intelligence. The school advantages of the wives of the various members of the groups paralleled those of the husbands. Moreover, for each accumulator group, the children over 21 years of age of owner farmers had attained a higher grade in school than was the case for the corresponding group of tenants, and the children of 21 years of age and over belonging to tenant families had enjoyed greater school advantages than the corresponding group of croppers. One hopeful indication is the fact that the children, except those of the best and medium croppers, had attained a higher average grade in school than their parents.

The comparative educational advantages of various classes of farm operators and of their children are shown from a somewhat different point of view for both southern and other areas in Table 8.

TABLE 8.—*Percentage of farmers and farmers' children, excluding children still in school, who reported high school or college education, 1919* [1].

	Total.	Owners.		Tenants.		Croppers.	Hired men.	Managers.
		Full.	Part.	Related.	Unrelated.			
Farmers:								
Southern areas (5)	13.0	20.0	13.9	27.8	9.5	11.1	4.5	50.0
Other areas (9)	22.8	20.2	34.6	37.0	14.8	.....	31.3	92.3
Farmers' children who had left school:								
Southern areas (5)	25.6	40.8	31.8	43.3	19.5	10.0	5.6	.....
Other areas (9)	47.0	48.5	51.5	35.7	43.7	.....	33.3	66.7

Surveys in 3 areas (Georgia, Iowa, and Missouri) by Bureau of Agricultural Economics, Division of Farm Population; and in 11 areas (California, Illinois, Indiana, Maryland, Missouri, Nebraska, New Jersey, New York, Oklahoma, Pennsylvania, and Wisconsin) by Inter-Church World Movement.

As shown in Table 8, the proportion of farmers having high school or college education is 13 per cent in the southern areas and 23 per cent in areas in the States of the North and West. In the southern areas a larger proportion of the full-owner farmers (20 per cent) reported high school and college education than of the part-owner farmers (14 per cent); but in the other areas the reverse was the case, part owners reporting high school and college education more generally than did full owners (35 per cent, as compared with 20 per cent). In both the southern areas and the other areas a larger proportion of the tenants who were related to their landlords reported high school and college education (28 and 37 per cent, respectively) than of tenants not so related (9 and 15 per cent, respectively). Croppers, found only in the southern areas, reported high school and college education in 11 per cent of the cases,

thereby exceeding the corresponding percentages for hired men in southern areas (4 per cent) but not for hired men in other areas (31 per cent).

Excluding children still in school, the proportion of children having high school or college education is shown in Table 8 to be 26 per cent in southern areas and 47 per cent in areas in the States of the North and West; or almost exactly twice as high in the case of each group of areas as shown for the farmers themselves. The proportion of children with completed schooling who had high school and college education was above average in both groups of areas in the case of children of both full owners and part owners and children of related tenants in southern areas. The proportion in the case of unrelated tenants in areas in the North and West (44 per cent) was over twice the corresponding proportion (20 per cent) in the case of unrelated tenants in southern areas, and exceeded the proportions shown for hired men in both groups of areas (33 per cent in northern and western areas and 5.6 per cent in southern areas).

Magazines and Newspapers.

Somewhat similar contrasts are revealed by statistics concerning periodicals and newspapers taken by various classes of farm operators, as shown in Table 9. The percentage for owner farmers is higher than for tenants in the case of every class of periodicals. The differences are much greater in the southern than in the northern surveys.

TABLE 9.—*Percentages of owner farmers and of tenant farmers taking various classes of periodicals; 10 surveys.*

WHITE OWNER FARMERS.

[See end of table for footnotes.]

Survey and date.[1]	Number of farmers in survey.	Percentage of all farmers taking—				
		Dailies.	Agricultural papers.	Weeklies.[2]	Magazines	Others.
Southwestern Ohio, 1912	273	[3] 94.9	57.9	[3] 13.2	[4] 27.1 [5] 13.6	[6] 14.3
North Carolina, 1922	436	40.1	45.6	69.0	48.1	[7] 2.8
Nebraska, 1920	406	84.0	77.8	38.9	[4] 21.7 [5] 18.2	[7] 3.2
Texas, 1919	106	[3] 67.9	59.0	62.1	53.3	
Kentucky, 1919	122	91.8	61.5	57.4	41.8	
Madison County, Tenn., 1919	63	74.6	69.8	47.6	38.1	
Montgomery County, Tenn., 1920	87	59.8	57.5	36.8	42.5	
Williamson County, Tenn., 1919	100	70.0	66.0	72.0	37.0	
Total or average	1,593	70.8	60.9	59.8	43.2	5.7

NEGRO OWNER FARMERS.

North Carolina, 1922	54	1.9	37.0	31.5	5.6	[7] 3.7
Virginia, 1921	149	[3] 16.8	69.8		2.0	
Total or average		12.8	61.1	31.5	3.0	3.7

TABLE 9.—*Percentages of owner farmers and of tenant farmers, etc.*—Contd.

WHITE TENANT FARMERS.

Survey and date.	Number of farmers in survey.	Percentage of all farmers taking—				
		Dailies.	Agricultural papers.	Weeklies.	Magazines.	Others.
Southwestern Ohio, 1912	203	[3] 89.7	42.8	[3] 4.9	[4] 21.7 [5] 4.4	[6] 11.8
North Carolina, 1922	297	10.1	25.6	16.2	27.6	[7] 1.3
Nebraska, 1920	384	82.6	72.7	29.2	[4] 19.8 [5] 16.1	[7] 2.1
Texas, 1919	248	[8] 52.0	46.3	54.5	42.4	.....
Kentucky, 1919	148	84.2	43.9	33.1	12.2	.....
Montgomery County, Tenn., 1919	77	9.1	22.1	18.2	18.2	.....
Madison County, Tenn., 1920	84	17.9	41.7	17.9	11.9	.....
Williamson County, Tenn., 1919	52	38.5	46.2	44.2	17.3	.....
Total or average	1,493	55.1	46.7	29.9	28.8	4.1

NEGRO TENANT FARMERS.

North Carolina, 1922	227	2.2	13.7	5.7	3.1	.....
Virginia, 1921	112	[8] 2.7	30.9	11.4	1.8	.....
Total or average	339	2.4	21.3	7.9	2.7	.....

[1] Sources as follows: Southwestern Ohio, *A Rural Survey in Southwestern Ohio*, Department of Church and Country Life, Board of Home Missions of the Presbyterian Church, 1913; North Carolina, *Economic and Social Conditions of North Carolina Farmers*, State Board of Agriculture in cooperation with United States Department of Agriculture, 1923; Nebraska, University of Nebraska Agricultural Experiment Station in cooperation with Bureau of Agricultural Economics, Divisions Land Economics and Farm Population, data unpublished in this form; Kentucky, Tennessee, and Texas, same sources as in Table 7, footnote 1, data unpublished; Virginia, Bureau of Agricultural Economics, Division Land Economics, data unpublished.

[2] Including religious magazines.

[3] Reported as "news" hence probably not all dailies, probably includes local weeklies.

[4] Women's magazines. [5] Standard magazines. [6] Cheap advertising. [7] Children's papers.

[8] For the Texas and Virginia survey, the total number of operators reporting on other periodicals than dailies varied with each, hence percentages here given are not on basis of those reporting for dailies.

Expenditures for Family Living.

Although amount of expenditure is not an adequate measure of standard of living, it furnishes a partial basis for comparison. Some statistics available from local surveys are summarized in Table 10.

TABLE 10.—*Average family living expenses for white farm families in New York, Kentucky, Texas, and Tennessee, 1919–1921.*[1]

Survey and tenure.	Average of total family living values.	Per cent of all family living furnished by farm.	Value of food.	Per cent of all food values furnished by farm.	Average amounts spent for—					Miscellaneous.
					Clothing.	Health.	Advancement.	Insurance.	Personal items.	
New York, 1921:										
Tenant	$2,098	35	$839	47	$293	$102	$327	$46	$25	$466
Owner	1,983	37	778	51	273	76	318	41	23	474
Kentucky, 1919:										
Cropper	1,290	31	666	42	230	72	27	14	10	271
Tenant	1,732	38	839	58	255	87	75	37	15	424
Owner	2,003	41	840	63	284	91	156	47	14	571
Texas, 1919:										
Cropper	1,111	30	563	45	243	45	24	17	22	197
Tenant	1,332	34	631	58	264	70	37	41	21	268
Owner	1,809	34	750	64	381	69	113	48	21	427
Tennessee, 1919–1920:										
Cropper	591	44	341	56	98	23	15	7	7	100
Tenant	899	44	436	66	174	19	55	24	14	177
Owner	1,325	40	489	70	232	68	124	42	17	353

[1] The New York figures are from United States Department of Agriculture Bulletin 1214, Family Living in Farm Homes, in cooperation with the Cornell Agricultural Experiment Station. The figures for Texas, Tennessee, and Kentucky are from the same sources as those in Table 7, footnote 1.

In the southern districts the total average living expenses of tenant families are considerably less than those of owners. In the New York surveys the expenses of tenants exceed those of owners by more than $100 per year. In the New York and Kentucky surveys the proportion of the family living furnished by the farm is higher for owner farmers than for tenants, and in the Texas survey the proportions are equal. The proportions of the total expenditures used for food and for clothing are somewhat greater for croppers and tenants than for owners, but the actual expenditure is less, except in New York. In the southern districts the proportions devoted to advancement expenditures (books, magazines, music, education, social life, etc.) are much larger for owners than for croppers and tenants. The proportions devoted to the personal expenditures of the operator (mainly tobacco) are much the same in New York and Texas.

Housing Conditions and Home Conveniences.

As would be expected, housing facilities for tenants are generally less adequate than for owner farmers. The average valuation of dwellings of owner farmers in Texas, Tennessee, Kentucky, and Nebraska was found to be nearly twice that for tenants.[20]

Reports from several thousand owner farmers and tenants in various parts of the United States indicate that owners occupy houses that are somewhat older than those occupied by tenants. Information on the state of repair of houses derived from surveys in three Southern States previously referred to, indicate that 69 per cent of the houses occupied by owners were in good repair, 22.6 per cent in medium repair, and 8.4 per cent in poor repair; while of the tenant houses 37.5 per cent were in good repair, 31.8 per cent in medium repair, and 30.7 per cent in poor repair.

On the basis of averages from a considerable number of surveys (Table 11) it does not appear that overcrowding is, in general, a serious evil either for owners or for tenants. The average number of rooms for owner farmers was found to be 6.3 and for tenants 5.6. However, in certain parts of the areas surveyed as well as in other parts of the country, it is known that there is not enough room in farm tenant houses. As shown in Table 11 small percentages of tenants, and from a fifth to a tenth of the owner farmers, enjoy the conveniences that are taken for granted even in the poorer class of city houses.

Various surveys made between 1919 and 1921 show that in the North an average of about 70 per cent of the owner farmers and about two-thirds of the tenants had telephones. In the South conditions were more variable. In the Black Prairie of Texas and the bluegrass region of Kentucky about two-thirds of the owner farmers and from a third to two-fifths of the tenants had telephones. On the other hand, among white farmers of North Carolina only 14 per cent of the owner farmers and less than 2 per cent of the tenants had telephones. Similarly low percentages for tenants were ob-

[20] For 971 owner farmers and 1,065 tenants. For sources of statistics for first three States, see Table 7, footnote 1. The Nebraska data are from sources cited in Table 9, footnote 1.

tained in surveys made in the tobacco and cotton-producing sections of Tennessee. Of 112 negro tenants included in a Virginia survey not 1 had a telephone.

TABLE 11.—*Percentages of homes of owner farmers and of tenants provided with certain conveniences.*[1]

Kinds of conveniences.	2,871 owner farmers.	1,973 tenant farmers.
Running water in houses	19.6	7.4
Bath rooms	18.0	5.7
Indoor toilets	12.9	4.4
Electric or gas lighting systems	17.7	8.0
Central heating systems	8.1	4.1
Refrigerators	20.7	6.7
Oil stoves for cooking	41.9	28.8
Vacuum cleaners	11.7	6.7

[1] Surveys in Tennessee, North Carolina, Nebraska, Iowa, and various local studies made under the auspices of the Inter-Church World Movement. (Citations given under Table 8.) The bases of the percentages are not the same for all the items, as not all of the persons surveyed reported on every item.

The various contrasts in educational advantages and standard of living that have been considered above appear generally, though not invariably, unfavorable to tenants. However, such contrasts can not be adequately explained as due merely to difference in form of tenure. If tenants as a class are characterized by less literacy, are less adequately housed, read fewer books and magazines, have poorer sanitary facilities, and enjoy fewer household conveniences, as compared with owner farmers in a given region, it is not merely because they are tenants.

Generally, the disabilities and disadvantages which, on the average, characterize the class of tenants to a greater extent than the owner farmers grow out of the fact that tenants as a class are financially less advanced than owner farmers, partly because they include a large percentage of young men who will ultimately acquire more adequate financial resources, partly because a smaller proportion of tenants have benefited by receipt of wealth through inheritance, gift, or marriage, and partly because in the processes of economic and social selection the group contains a larger proportion of those who through various forms of personal inadequacy or misfortune, either fail to rise into ownership or to maintain their position as owners.

Principal Kinds of Contracts Between Landlords and Tenants.

Up to this point we have generally spoken of tenancy as if it were a uniform system of land tenure. As a matter of fact, there are a number of kinds of tenancy involving numerous differences in detail.

Relative Statistical Prevalence of Different Kinds of Tenant Contracts.

For statistical purposes the different types of tenancy are divided into two great groups, share tenancy and cash tenancy. However, a number of statistical subgroups have come to be distinguished, which,

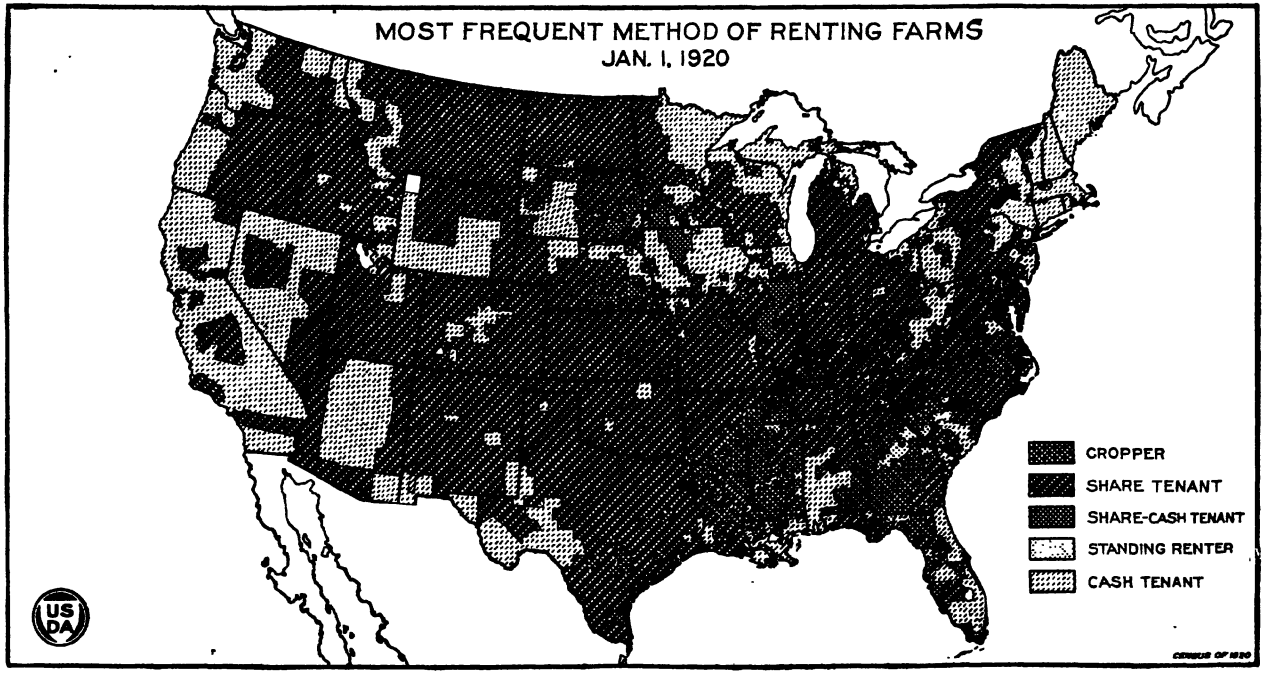

FIG. 68.—In 1920 share tenancy was the principal form of tenancy in four-fifths of the counties and five-sixths of the States. Cash tenancy predominated in New England, western Pennsylvania, and the northern parts of the Lake States, but in none of these areas was there a large percentage of tenants, and therefore cash tenants were not numerous. Three of the most important regions of cash tenancy were Iowa, southwestern Alabama, and the Pacific coast. Croppers are more numerous than other tenants in southeastern Arkansas, northeastern Louisiana, and western Mississippi, in southeastern Alabama, and southern Georgia. In several counties of Georgia and South Carolina standing renters are first in number.

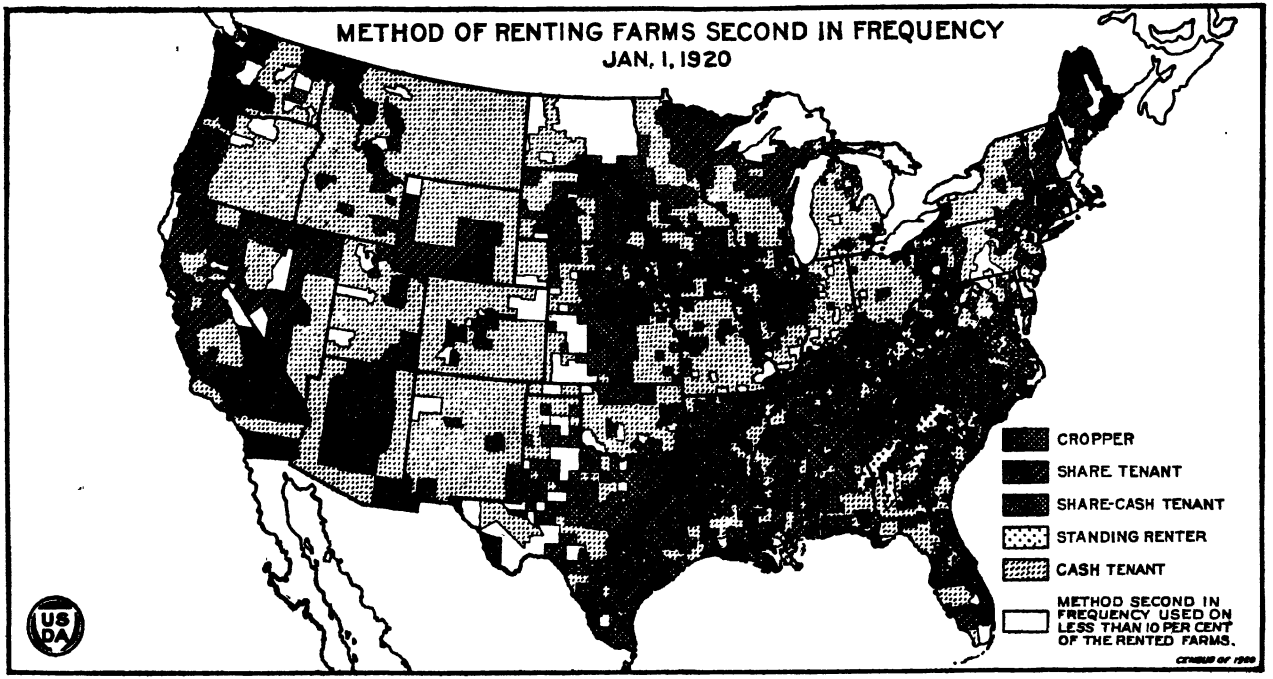

FIG. 69.—Cash tenancy is the system second in importance in New York, much of Pennsylvania, and in most portions of the North Central States, where it is not first in importance (see fig. 69). In parts of Illinois, Iowa, the Dakotas, Nebraska, and Kansas share-cash renting either predominates or is second in importance. In the Rocky Mountain and Pacific States cash renting is second where it is not first, and is relatively an important system in this part of the country. In the South cropper farms, where not first are generally second in number.

to designate them by the terms applied to the persons renting, include share-cash tenants, standing renters, and croppers (figs. 68 and 69).

In 1920, three-fourths of the farm tenants (73.6 per cent of all and 75.5 per cent of those of known status) worked their land on shares, including share-cash tenants and croppers (fig. 70). Though outnumbered by share tenants in each census report from 1880 to 1920, the proportion of cash tenants increased from 1880 to 1900. Since 1900 the proportion has decreased.[21]

In some of our States there are considerable numbers of tenants who pay as rent a stated amount of farm commodities, usually cotton. The payment of standing rent, to use the census term, is especially prevalent in Georgia and South Carolina, largely because all classes of share tenants in those States are legally held to be

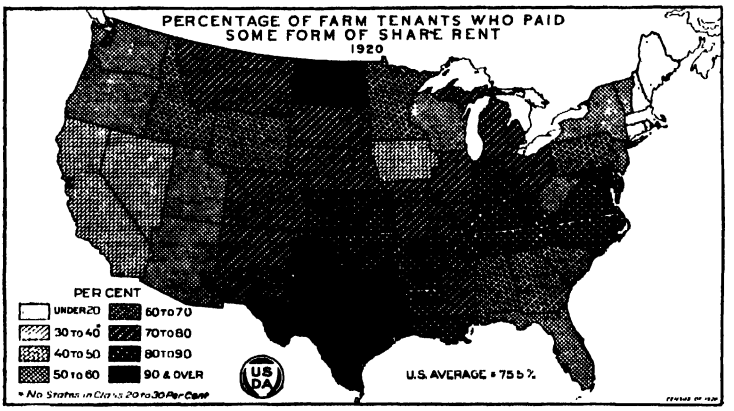

FIG. 70.—Only in five New England States and in Iowa, California, and Nevada are share tenants (including croppers) less than half of all tenants. In many States they are over three-fourths of all tenants, and they are also slightly over three-fourths for the Nation as a whole.

laborers and are not accorded the legal rights of tenants; but in none of the other States are standing renters as important relatively as cash tenants paying a money rent.

Farms rented partly on shares and partly for cash (share-cash) comprise one of the important subclasses included statistically under share tenancy, and are most prevalent in parts of the North Central States. Where cash rent is paid on farms partly rented on shares, the acreage leased for money rent is usually pasture and hay land, the sharing basis being applied generally to the grain land.

Sharing by croppers is sufficiently different from other types of sharing to justify special consideration. As pointed out previously, croppers are ordinarily quite destitute of capital, owning neither land, buildings, work animals, nor farming tools, and must be furnished with these requisites and usually with subsistence for the

[21] Although 37.1 per cent were reported in the group of "cash and unspecified" in 1900, the unspecified were such a proportion of the whole (4.8 per cent in 1910) that it is unsafe to say that more than a third of the tenants were on a cash basis in 1900.

family during the months preceding harvest.[22] The majority of croppers work under the close supervision of the plantation operators. Furnishing only human labor and sometimes a share of the fertilizer and seed, they commonly receive half of the cotton or tobacco, but in some districts the share is only one-third.

Conditions Influencing the Kind of Tenant Contract Employed.

The form of the tenant contract is determined largely by the ability or willingness of the respective parties to supply capital, provide supervision, or assume risks. When tenants are able to pay cash in advance or can be trusted for subsequent payment of cash, landlords are more likely to be willing to rent for cash than when the opposite conditions prevail. When the element of risk is large and the tenant is inexperienced or incompetent as a manager, share renting is likely to prove to the interest of both parties, especially if the landlord is able to provide advice or supervision. This is particularly the case when the tenant has but little capital or credit. Under such conditions when crops are poor or prices low, the landlord might be unable to collect a cash rent, but in favorable periods would find his rent limited to the stipulated amount. Under a share system the landlord's risk with such a tenant is no greater in unfavorable periods than under a system of cash renting, but in favorable periods he enjoys a share of the increased returns. Moreover, if the landlord is compelled to supply the more perishable forms of operating capital, such as machinery and livestock, he will usually find it necessary to maintain close supervision and control. If this is the case he is not likely to be willing to accept a fixed cash rent. In general, landlords who rent on shares live near their farms and keep a watchful eye on the methods of farming and also on the amount and division of the crops.

Other things equal, the relations of landlords to tenants may be classified by the relative amount of risk assumed by the respective parties under the various classes of renting contracts. Viewing the matter from the standpoint of the landlord, cash renting involves the least amount of risk. In the North, the cash tenant usually has sufficient capital and credit so that the landlord does not ordinarily incur great risk of not receiving his rent, even in unfavorable years (fig. 71). In fact, in a number of States the landlord's rent is legally protected by provision giving him a statutory lien on the crops. Similar rights are sometimes provided for in the case of livestock and other personal property. Somewhat greater risk for the landlord is involved in standing rent, for, although the amount of the crop to be received is fixed in the agreement, he is subject to the variations in the price received for his part. In the ordinary crop-share lease, when the landlord supplies only the land and buildings but does not furnish any of the working capital, he is subject to the variations in yield and prices as reflected in the fractional share of the crop agreed upon as rent. In the case of the cropper arrange-

[22] In a number of Southern States they are legally classified as laborers rather than as tenants and, therefore, are adjudged to have no rights of ownership in the implements and work stock advanced for their use, nor in the crop itself until after division by the plantation operator.

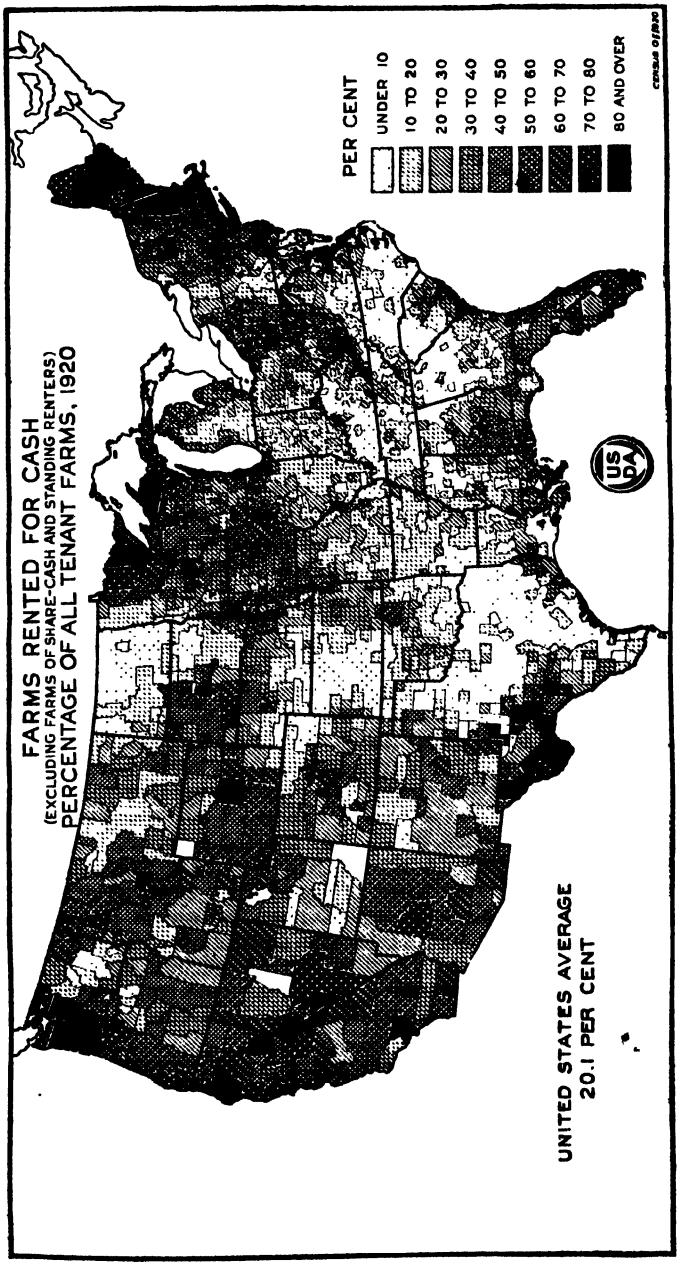

FIG. 71.—Cash tenants are relatively though not absolutely numerous in New England and eastern New York, in the cut-over areas of the Lake States, in western Pennsylvania and West Virginia, and in much of the West, especially along the Pacific coast. These are areas in which dairying or cattle ranching are generally predominant. Cash tenants are both relatively and absolutely numerous in Iowa, northern Illinois, and northeastern Nebraska; also in the south Atlantic and Gulf coastal plain, especially in Florida and southern Alabama.

ment, the landlord's risk is very much greater, for, in addition to furnishing the real estate, he incurs heavy expenses for supplying and maintaining the operating equipment, furnishing part of the seed and fertilizer, and supervision. Indeed, the risk of the landlord is scarcely less than if he were operating the farm with hired labor, for he must advance the croppers their living while making the crop.

Returns to Landlord in Different Forms of Tenancy.

Inasmuch as the risk and responsibility of the landlord vary so greatly under the different systems mentioned above, it is inevitable that the terms will be such normally as to make the return correspond more or less closely with the landlord's risk and responsibility. Theoretically, the landlord should receive a higher percentage of return in share renting than in cash renting, and a higher percentage of return from croppers than for other forms of share tenancy. Local surveys generally confirm these conclusions (see the right-hand part of Figure 67).

To some extent landlords supply not only the use of the real estate but also part or all of the operating capital. As already noted, under the cropper system the landlord furnishes the working capital as well as the land, with occasional exceptions in the case of fertilizing and ginning expense. In the North the tenant, who may be a son or other relative of the landlord, may arrange to buy the operating equipment largely on credit from the landlord. In other cases, the tenant may agree to pay the landlord a correspondingly larger share, commonly two-thirds of the crop, for the use of operating equipment as well as the real estate. There are also systems of tenancy, especially prevalent where livestock husbandry is an important element in the system of farming, which involve the landlord in a large share of responsibility for operating capital, current expenses, and supervision. Very frequently such arrangements, commonly known as "stock share" or "crop and livestock share" leases, provide for a half-and-half division of all receipts, and an equal division of all expenses, except for land and labor.

To a considerable extent in the North, and to a large extent in the South, the landlord furnishes little, if any, capital, other than the real estate. Under these circumstances the share paid as rent is largely determined by custom in the community, but differs in accordance with the kind of crop which constitutes the principal basis of farming. Very intensive crops, like cotton and tobacco, for example, involve usually a smaller share rent than less intensive crops, such as corn and small grain.

In regions where corn and small grain predominate as the principal basis of the farming system, it is customary in most districts for the tenant furnishing labor and work stock to pay from one-third to one-half of the grain. The share depends not only on such considerations as the location of the farm, the quality of the land, the character of the improvements, and the amount of pasture and hay land available, but also on the arrangements with respect to furnishing seed, threshing expense, binder twine, and other items.

If the landlord pays half of the threshing bill and contributes the seed it is not uncommon for him to receive half the grain. In some sections a rent share of two-fifths is customary. Where land is poor or rainfall scanty, the landlord's share may be as little as one-fourth, if he does not furnish the seed grain.

Although hay is one of the most important crops in the United States, it is commonly not a money crop in most of the important general-farming regions. Where other crops and livestock are the main sources of money income, especially in the region east of the Appalachians, the share tenant may not be required to share the hay unless he sells it. As already noted, however, especially in the Corn Belt, it is frequently customary to pay cash for the hay land while sharing the grain crops. In sections where hay is an important money crop, as in the irrigated districts of the West, a share of the hay up to one-half or more may be paid as rent.

In considerable areas of the Middle Atlantic States the farming system is extremely diversified, involving not only the production of grain and hay and the keeping of livestock, but also the raising of specialty crops such as beans, potatoes, tomatoes, sweet corn, peas, and considerable fruit, as well as dairy and poultry products. Not infrequently the renting contract is expressed in terms of a single fractional share of certain specified crops, such as half, but there is the utmost diversity in the contributions of landlord and tenant with regard to fertilizers, spraying materials, twine, threshing bills, the use of hay and pasture, the landlord's receipt of milk, eggs, vegetables, and many other items.

In fact, various local studies have shown that there is much greater flexibility in share systems of renting than the uniformity of the fractional share customary over wide areas might suggest. This is illustrated by the analysis of the respective contributions of landlords and tenants in the case of 30 farms in Clinton County, Indiana, nearly all rented in 1918 for a half share of the receipts (Table 12). This flexibility is involved in some of the items of expense or special privileges, and not infrequently is the basis for the free play of bargaining. However, when all allowance is made, custom has undoubtedly prevented that precision of adjustment in the rental contract which is justified by differences in quality of land, proportion of land improved, kind of buildings and other improvements, the experience and ability of the tenant and other factors.

Relation of Tenure to the Shifting of Farm Operators From Farm to Farm.

Most of the evils attributed to tenancy in the United States are connected in one way and another with the instability of tenant farmers or with their insecurity of tenure.

Extent of Shifting.

It is estimated that in the United States 27 per cent of the tenant farms and 6 per cent of the farms operated by owners changed occupants in 1922 (figs. 72 and 73). The average for all farms

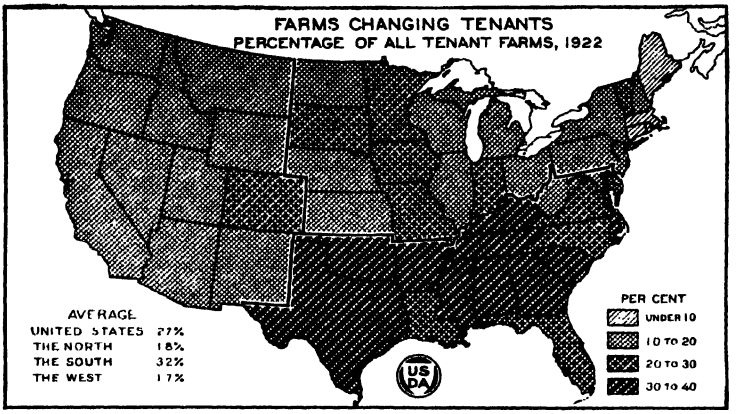

FIG. 72.—It is estimated that during the year ended December 1, 1922, 27 per cent of the tenant farms had changed tenants. It will be noted that the proportion was much larger in the South than in the North and was smallest in New England and the West. The proportion may have been somewhat higher than normal in the North Central and some of the Western States because of the agricultural depression. The map is based on information supplied by about 11,000 crop reporters of the Bureau of Agricultural Economics.

was 19 per cent. The nine States in which more than a fourth of the farms, including those both of owners and tenants, were operated by new occupants are all in the South, and the six States in which fewer than 10 per cent of the farms had new occupants are those of the New England group. In most of the Corn Belt and Western States the percentages fall between 10 and 15. Much the same sectional contrasts are reflected in the census statistics of 1910 showing period of occupancy and those of 1920 showing period of operation (figs. 74 and 75).

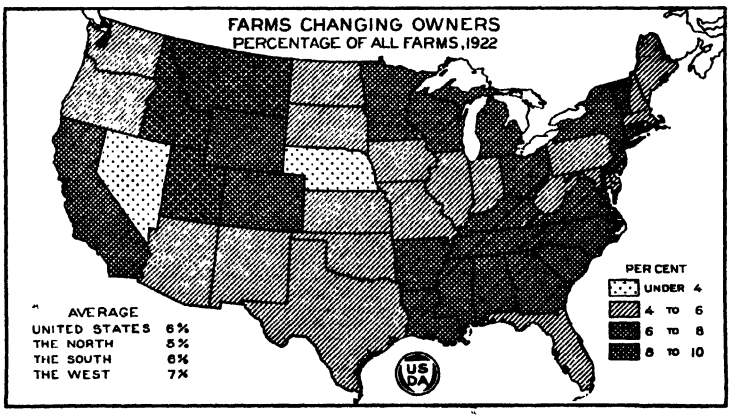

FIG. 73.—In the year ended December 1, 1922, less than one-fourth as many farms changed owners as changed tenants. Undoubtedly the agricultural depression, especially in the northern plains and Rocky Mountain States, caused more sales of farms than usual. Based on reports from about 11,000 crop reporters of the Bureau of Agricultural Economics.

TABLE 12.—*Variations of the landlord-tenant contracts on farms rented on shares (mostly half-share crop leases), 30 farms, Clinton County, Ind., 1918.*

Products or sources of income.	Number of cases in which tenants kept [1]				
	None.	One-third.	One-half.	Two-thirds.	All.
Crops		[2] 3	26	[3] 1	
Livestock:					
Hogs		1	15	[4] 1	13
Horses		1	3	1	10
Cattle		1	10	[4] 2	16
Dairy products		1	2	4	19
Hides			2		2
Breeding fees					1
Poultry			4		24
Eggs			3	2	24
Sheep			1		
Wool			1		

Items of capital furnished.	Number of cases in which tenants furnished [1]				
	None.	One-third.	One-half.	Two-thirds.	All.
Real estate:					
Land	30				
Silos					1
Other buildings	30				
Machinery		1		11	18
Livestock:					
Hogs		1	15	[4] 1	13
Horses—					
Work		1	4	3	22
Other		1	4	1	14
Cattle		1	10	[4] 2	16
Poultry			5		25
Feed and supplies		3	10	5	12
Cash		1	5		23

Costs other than unpaid labor.	Number of cases in which tenants paid [1]				
	None.	One-third.	One-half.	Two-thirds.	All.
Taxes:					
Real estate	30				
Personalty					30
Insurance	1	9	1	2	13
Repairs:					
Buildings	19				
Fences	28				
Machinery			1		29
Tractor					1
Hired processes requiring power machinery:					
Baling		1	2		4
Clover hulling			2	1	3
Corn shredding					2
Feed grinding			2		7
Silo filling	1	1	3		1
Threshing		1	5		22
Livestock fees, etc.:					
Breeding			2	1	7
Shoeing					26
Transfer			1		
Veterinary		1	6	1	18
Materials:					
Crates, etc.					1
Feed		1	7	[5] 10	12
Fertilizers		1	11		
Fuel for farm		1	1	4	23
Seed		6	16	6	2
Spray materials					1
Twine		1	3		25
Labor:					
Machine work			1	[6]	5
Other work					25

[1] Where the proportion is between none and half, it is recorded in the column headed "One-third," and where it is between half and all it is recorded in the column headed "Two-thirds." See subsequent footnotes for details of these cases.

[2] One tenant kept one-third of the clover and one-half of other crops; another tenant kept half of the corn and one-third of the hay; and the third tenant kept one-third of all crops.

[3] Tenant kept half the corn and three-fifths of the other crops.

[4] Tenant furnished half the feeders and all of the other livestock designated.

[5] Some tenants furnished half of the feed raised and all of the purchased feed and some other tenants furnished half of the small grain fed but more than half of the corn.

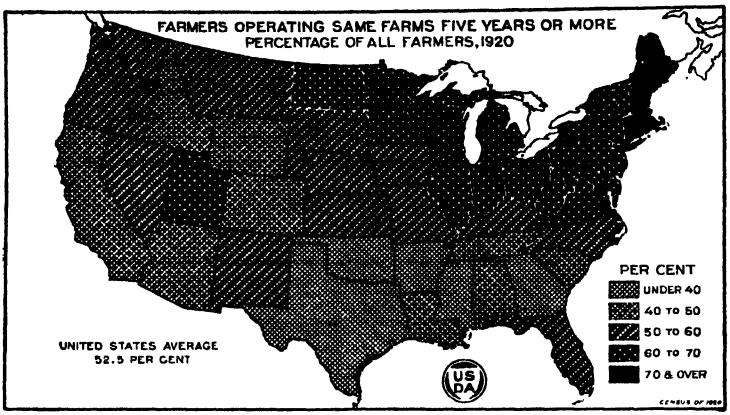

FIG. 74.—Both the census of 1910 and that of 1920 afford information indicating that both tenants and owner farmers in the South and West occupied their farms for shorter periods than was the case in the northeastern section of the country. In the West the process of settlement has much to do with explaining the short periods of occupancy. In the South a good deal of the apparent instability of farm operators is accounted for by the practice of shifting croppers and other tenants from tract to tract on the plantation. If the plantation were regarded as the farm unit instead of the particular tract assigned the cropper, much of this apparent shifting in the South would be eliminated from the statistical results.

The reported average period of occupancy for 1910 was 8.4 years, and the estimated average for 1920, 9.2 years. The figures are not strictly comparable, partly because of differences in method of enumeration and partly because of differences in time of year when the

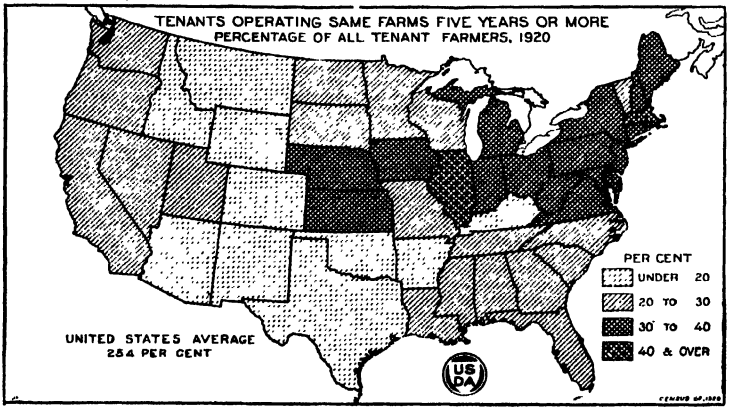

FIG. 75.—The map indicates that the percentage of tenants who had operated the same farms for five years or more was highest in the Corn Belt, the New England States, the Middle Atlantic States, Maryland, Virginia, West Virginia, and Michigan. In 1920, for the United States as a whole, 18.4 per cent of tenant farmers reporting period of occupancy had operated the same farms less than 1 year; 25 per cent, 1 year; 31.2 per cent, 2 to 4 years; 14.6 per cent, 5 to 9 years; and 10.8 per cent, 10 years and over.

respective enumerations were made.[23] In spite of these difficulties of measurement, the conclusion appears to be justified that the average period of occupancy was longer in 1920 than in 1910.

The averages in the preceding discussion refer only to periods of occupancy or operation up to the time the census was taken. Operators were due to continue their occupancy for periods ranging from days to decades. The uncompleted periods of occupancy reported in the census may have accounted for less than half of the full period of occupancy for the operators in the short-occupancy groups, but probably exceeded half of the full period for operators reporting in the longer-occupancy groups. Owing to the predominance of the latter in the aggregates and averages, it is probable that complete periods of both past and future occupancy were less than twice the terms reported in the census. The estimates of the full average period of occupancy in 1920 might thus be placed between 12 and 14 years instead of 9.2 years.[24]

The average number of years of occupancy by farmers reported when the census of 1910 was taken varied widely between tenure classes. The averages for the five tenure classes reported are as follows: Owners free of mortgage, 14 years; mortgaged owners, 9.2; part owners, 8.6; managers, 4.4; cash tenants, 3.8; and share tenants, 2.6. The variations in period of occupancy in different parts of the United States are shown in Figure 76.

Relation of Color to Shifting of Farm Operators.

In 1910, except in the case of owners free of mortgage debt, colored farmers had periods of past occupancy exceeding those of white farmers for corresponding tenure classes from a third of a year to a year and a half.[25] Although averages are not available for 1920, approximately similar conclusions are indicated. While the differences in methods of enumeration and in time of year when the enumeration is made render it very difficult to ascertain whether colored farmers had been in occupancy longer in 1920 than in 1910, the statistics strongly point in that direction in the case of tenants, and less conclusively in the case of owner farmers. The distribution of croppers by periods of occupancy shows a larger proportion in the short periods and a much smaller proportion in the long periods than is the case with other classes of colored share tenants. However, the white croppers reported much shorter average periods of occupancy than the colored croppers.

Causes and Significance of Shifting.

Some of the conditions responsible for the relatively short periods of occupancy of all classes of farmers in the United States, as com-

[23] In 1910 the census did not enumerate as farm occupants persons operating farms but not living on them. In 1920 this group, estimated at about 4 per cent of the total number of farm operators, was included. The census of 1910 was taken as of April 15, while the census of 1920 was taken as of January 1, a time when a large proportion of tenants are shifting or just have shifted. The effect was to decrease the proportion of operators in 1920 classed in the group on farms less than one year and to increase the group who had been on their farms for longer periods.

[24] In the following references to differences between classes of operators and sections of the country, only the statistics of past occupancy are used.

[25] In the case of owners free of mortgage debt it is probable that the relatively shorter period of occupancy for colored farmers is due in part to the large percentage of negro owner farmers who had recently succeeded in achieving farm ownership shortly before the census of 1910.

pared with those of European countries,[26] also account in part for the comparatively short periods of occupancy by tenant farmers in this country. The general causes are given on the following page.

AVERAGE YEARS OF FARM OCCUPANCY, TENANTS COMPARED WITH OWNER FARMERS, CENSUS OF 1910.

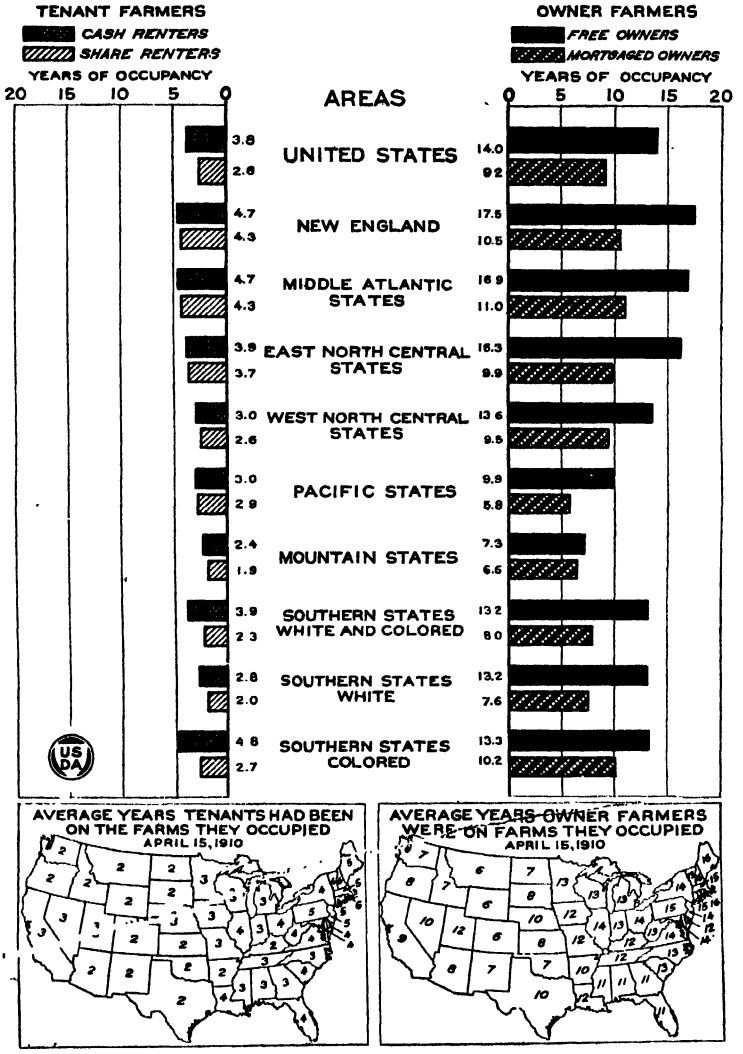

FIG. 76.—In the United States as a whole and in each of the 48 States the average period of occupancy for owner farmers is higher than for tenants. The period for cash tenants is longer than for share tenants, but the differences outside of the South are not very great. The period of occupancy of both owners and tenants is longer in the Northern and Eastern States than in the West.

[26] In some of the countries of central and eastern Europe recent extensive agrarian changes have probably altered considerably the average periods of occupancy.

(1) The attractiveness of new areas of virgin agricultural land successively made available for development and the habits of migration formed in the process of expansion of an agricultural area across the continent. In some regions these tendencies have been connected with farming practices resulting in soil depletion, thus intensifying the tendency toward migration to regions of virgin soil.

(2) The greater extent to which farm land has been an object of purchase and sale for speculative and investment motives as compared with European countries where social and traditional considerations and the habits formed by centuries of relatively unchanging conditions have caused farms to be looked upon as permanently attached to particular families, whether of large landlords or of peasants.

(3) The rapid industrialization of different parts of the United States, resulting not only in a steady movement of farm population into other industries, but also in constant changes in market opportunities and, therefore, in necessary readjustment in systems of farming and size of farms.

(4) The greater extent to which different tenure groups in this country represent stages in an agricultural ladder than is the case in many European countries.

In short, the great fluidity of American economic and social life is largely responsible for the relative instability of our tenure classes. It should also be noted that this greater fluidity tends to create conditions favorable to its continuance. As contrasted with farmers in European countries where shifts are comparatively infrequent, a farmer in this country who is dissatisfied with the farm he occupies or with the community need not be deterred from moving because of uncertainty of finding another farm available for occupancy. Moreover, the shifts themselves may lead to other shifts. The movement of relatives and friends to a district neighborhood may constitute a reason why a particular family will wish to follow them in order to maintain long-established social relations.

Consequently, while some of the shifting in this country is more or less aimless, and some of it largely habitual, much of the fluidity of American farm life represents desirable economic and social readjustments.

Reasons Assigned for Shifts.

The fact that shifting represents economic and social readjustments is reflected in the reasons for shifting given by operators themselves, as obtained in certain local surveys made in the South. The number of operators included was 1,093, of whom 882, or 80.7 per cent, had changed farm locations at some time since they began to earn money for themselves. The total number of shifts made was 3,360. The number of reasons reported was 3,528.[27] Some of the classes of reasons given are not mutually exclusive, and some—as, for instance, migration from another section—are not reasons at all. However, the classification of reasons has considerable significance. In the first place, an overwhelming predominance of economic motives is indicated. In the case of tenants and croppers, progress up the tenure ladder is indicated as a primary reason in nearly 20 per

[27] Local tenure surveys in Kentucky, Tennessee, and Texas, referred to previously.

cent of the cases. A combination of several classes of replies indicates that either partial or complete failure was responsible for moves in at least 14 per cent of the cases for croppers, 9 per cent for tenants, and 12 per cent for owner farmers. To obtain a farm which was better adapted in size, quality of land, or character of improvements to the requirements of the farmer was a very prevalent class of reasons, amounting to 25 per cent of the reasons for moves of croppers, 31 per cent for tenants, and 40 per cent for owner farmers.

The greater instability of tenants as compared with owner farmers may be explained as follows:

(1) Since tenancy is an intermediate stage for farmers climbing the ladder, the tenant class is composed partly of laborers or young farmers who have just entered that stage, while tenants are constantly terminating their occupancy as tenants in order to ascend into the class of owner farmers.

(2) In the tenant class is included a large proportion of the incompetent, the thriftless, the restless and migratory elements, who are unable to climb to farm ownership or to maintain themselves in that status. Naturally, such elements are characterized by instability.

(3) In the case of tenancy two parties have to be satisfied, the tenant and the landowner. The probability that there will be dissatisfaction on the part of at least one of the parties, and consequently termination of the period of occupancy is naturally greater than in the case of owner farmers.

(4) Having a smaller stake in the land, it is easier for tenants than for owner farmers to change to other industries or farms.

Social and Economic Consequences of Shifting.

The evil consequences commonly attributed to the short period of occupancy of tenant farmers are partly social and partly economic. As to the first, it is alleged that tenants remain in the community so short a time that they fail to identify themselves with its social activities and institutions. It should be noted, however, that a majority of the moves made by farmers are from farm to farm within the community and do not necessarily involve breaking their social connections (fig. 77). On the whole, it is probable that to a considerable extent the shorter periods of occupancy of tenants reduce somewhat the degree of social integration in communities where tenants are a large proportion of the farm population.

It is not clear to what extent the relatively more frequent shifts by tenants are responsible for undesirable economic consequences. It is observable that in many parts of the country tenant farming is inefficient and characterized by methods which impair fertility of the soil. Without doubt, where such conditions prevail a large part of the responsibility is attributable to the short periods of occupancy, the uncertainty of the tenant as to his period of occupancy, and the lack of interest which he has in the maintenance of soil fertility. In England, where nearly 90 per cent of all farm operators are tenants, as well as in other European countries, the systems of tenant farming are characterized by a considerable degree of efficiency and permanence.

Even the insecurity and short duration of tenant occupancy in America can not be blamed with all the undesirable consequences sometimes associated with tenant farming. Sometimes, inefficient and wasteful systems of farming are characteristic of owner farmers, as well as of tenants, and represent exploitative methods or habits of farming which have grown up by reason of the earlier abundance of virgin land. The fault lies sometimes with the tenant himself and not with the system of tenure; that is, sometimes the tenant is the kind of man who would employ inefficient methods under any system of tenure.

Such conditions can not be removed in great degree by legislation and will be eliminated only through gradual changes in basic economic conditions and gradual progress in intelligence on the part of

PERCENTAGES OF CASES IN WHICH ESTABLISHED COMMUNITY RELATIONSHIPS WERE BROKEN AS A RESULT OF REMOVALS TO OTHER FARMS BY TENANTS AND OWNER FARMERS; SELECTED AREAS IN KENTUCKY AND TENNESSEE, 1919–1920.

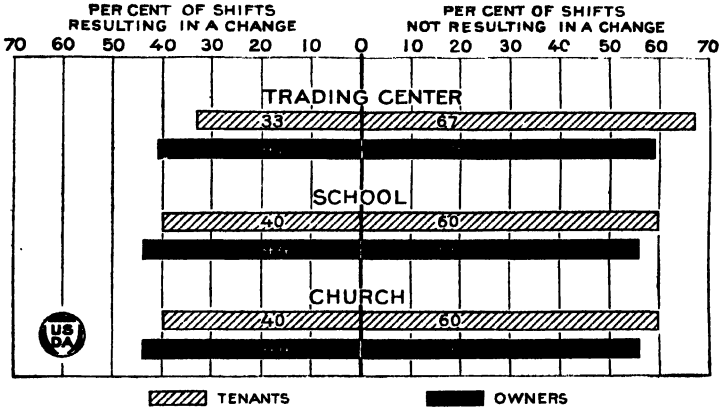

FIG. 77.—From 56 to 67 per cent of the moves made by farmers in the districts surveyed were within the same community. Owners appear to shift more widely than do tenants, and therefore a larger percentage of the moves by owners result in breaking their established community relations.

certain classes. One of the basic difficulties, the great fluidity of American farm life, is likely to be gradually reduced with the passage of time.

Conclusions.

The preceding discussion has not been directed to the purpose of indicating that tenancy is a superior form of tenure. If this should appear to be the case, it is owing to the necessity of submitting facts to disprove the all too general assumption that tenancy is always, in itself, an inferior and undesirable form, and to attribute to it a great many evil conditions which are really due to other causes. These conditions include unequal distribution of wealth, habits of land exploitation and instability of occupancy largely the outgrowth of the comparative abundance of land resources in our recent past, the persistence in certain sections of a one-crop system of farming, and the personal illiteracy, inexperience, thriftlessness, and inertia

of certain individuals. To assume that some artificial plan for converting tenants into landowning farmers would remove all of these conditions is to follow an illusion.

Farm tenancy, considered as a method of acquiring the use of land, is adapted to the special circumstances of a large proportion of farmers, because of their lack of experience and available capital. However, this point of view does not imply that all existing forms of tenancy in this country are ideal, or that a do-nothing policy is justified. In fact, there is need for the development of a positive and constructive policy with respect to American land tenure, a policy that would necessarily involve the cooperation of the Federal Government and the States. Such a policy would not consist of any single panacea, but would involve a number of coordinated measures, which can here be considered only in brief outline.

Facilitating Progress to Farm Ownership.

It would be unfortunate to make the road to farm ownership so easy that farm ownership could be achieved by those who are unready. However, it is widely recognized that it would be good public policy to remove unnecessary obstacles to the achievement of ownership by employing methods such as the following:

CREDIT FACILITIES FOR TENANTS.

By reason of its low rate of interest and arrangements for amortization the Federal farm loan system is unquestionably of material assistance in facilitating the progress to ownership by tenants and other persons, especially in certain parts of the country. However, there is need for a measure more specifically adapted to the special requirements of tenants in purchasing land. A few States have gone somewhat farther than the Federal Government, but it is probable that comprehensive measures providing for the extension of credit to tenants purchasing farms would be an important phase of a constructive policy for land tenure.

A POLICY OF LAND SETTLEMENT.

Because of the future necessity of expansion in our crop area, a constructive policy of land settlement would go far toward smoothing the road to ownership for those attempting to establish themselves in new regions. Such a policy would involve suitable guidance and direction by public authorities and protection against unwise and ill-considered projects on the part of private land-settlement agencies. A constructive policy of land settlement might well involve also measures for the reorganization of agriculture in regions where changed economic conditions emphasize the need for extensive readjustments in size of farms, the farming personnel, and the system of farm organization.

STANDARDIZATION OF LAND TITLES.

About 19 or 20 States have passed special measures for simplifying and standardizing land titles and insuring their validity. An extension of such measures to other parts of the country would ren-

der somewhat easier the purchase of farm land, especially in the case of small tracts or land of low value.

IMPROVED METHODS OF LAND VALUATION.

No small part of the hazard in purchasing land, or in lending money on land as security, consists in the inadequacy of existing systems of land valuation. Much is still obscure as to the forces that determine the price of farm real estate, but progress is being made through systematic research. In Great Britain and other European countries the valuation of farm real estate has become an established profession for which extensive training of a specialized character is required. The increasing complexity of agricultural economic relations in this country will justify similar measures for standardizing methods and facilities for the valuation of farm real estate.

MODIFYING THE SPECULATIVE ELEMENT IN FARM LAND VALUATIONS.

From time to time there spring up periods of frenzied speculation in farm land which are a serious detriment to the agricultural industry. It has been suggested that in part at least a tax on resales within a short period after purchase might prevent such manifestations.

It may also be noted that the practice of making the property tax one of the variable elements in State and local finance serves to increase the uncertainty of the purchase of farm land. It has been suggested that if the land tax were transformed into a fixed or cadastral levy, with certain special exceptions, and other sources of revenue were employed to give elasticity to the fiscal system, the hazards of the farming industry and of farm ownership would be somewhat diminished.

Improvement of the Tenant Contract and the Relations of Landlord and Tenant.

As already indicated, in many parts of the country the prevalence of customary methods of renting has prevented the precision of adjustment in landlord-tenant relations that is desirable under modern competitive conditions. Individual farms and farmers in the same community may differ so greatly that there is need for modifications in existing renting agreements. Careful study of the operations of renting agreements by means of accounting is important, and in some states this is being promoted by experiment stations and extension agencies.

ORGANIZATIONS OF LANDLORDS AND OF TENANTS.

It is probable also that under proper conditions organizations of landlords and of tenants may be beneficial. In the recent past a considerable number of such organizations varying widely in character have sprung up in different parts of the United States. These include such widely different types as the following: (1) Local organizations of tenants aiming to compel a reduction of rent by employing the methods of labor unions; (2) counter organizations of landlords; (3) organizations catering to small farmers, especially

tenant farmers, and attempting to influence legislation under the impulse of ideals that would be classed as radical; (4) temporary organizations to promote a single piece of legislation; (5) landlord-tenant conferences for improving the tenant contract.[28]

The first four kinds are largely class-conscious in character. The fifth class has been developed mainly in the Corn Belt under the leadership of county agricultural agents. Separate meetings of landlords and of tenants are held to consider and formulate the points of view of the respective groups. Then one or more joint meetings are held. The general tone of these meetings is that of rational discussion for mutual understanding. It is too early to judge of their merits, but in so far as they can be made to operate in a spirit of mutual fairness, cooperating with public extension agencies in the effort to attain a better understanding of local renting arrangements, they may help to focus local public opinion on the problem of improving landlord-tenant relations, particularly in the interest of better systems of farming.

LEGISLATIVE METHODS OF STANDARDIZING AND IMPROVING THE TENANT CONTRACT.

As noted above, the Federal Government, the States and quasi-public institutions are large landlords and the responsibility rests upon them for developing model leasing arrangements for the land they control. However, it may be found desirable to establish by legislation arrangements for guaranteeing to tenants reimbursement for improvements made by them, and for insuring landlords against dilapidations by tenants. It may also be desirable to provide for protecting tenants against arbitrary and unwarranted disturbance as well as to compensate landlords for unwarranted desertion by tenants.

[28] The following number of county landlord-tenant conferences were held in the period, 1921–1923: Illinois, 4; Iowa, 26; North Dakota, 1; Ohio, 1; and South Dakota, 4.

AGRICULTURAL STATISTICS.

UNITED STATES DEPARTMENT OF AGRICULTURE YEARBOOK—1923.

Prepared under the direction of the Statistical Committee, Joseph A. Becker, Lewis B. Flohr, G. B. L. Arner, W. F. Callander, and O. A. Juve.

INTRODUCTION.

Statistics of acreage, yield per acre, and production in the United States are estimates made by the Division of Crop and Livestock Estimates. For the years 1879, 1889, 1899, and 1909, acreages are as reported by the Bureau of the Census; acreages in 1919 are based upon the census, supplemented by State enumerations. In the intercensal years previous to 1909, and from 1911 to 1915, estimated acreages were obtained by applying estimated percentages of decrease or increase to the published acreage in the preceding year, except that a revised base was used for applying percentage estimates whenever new census data were available. For the years 1890 to 1908, acreages have been revised to be consistent with the preceding and succeeding censuses. The estimates from 1915 to 1918, and from 1919 to date are based upon acreage changes from year to year as shown by a sample of approximately 2 per cent of the crop acreages in each year, supplemented by State enumerations. Yields per acre are estimates based upon reports of one or more farmers in each agricultural township, on the average yield per acre in their localities. Production is acreage times yield per acre. Production estimates are in some cases revised in the following year on the basis of State enumerations and records of shipments.

Estimates of farm stocks, shipments, quality, crop condition, and miscellaneous information concerning crops are based either upon sample data or upon estimates of crop reporters for their localities. The sources of these data are indicated in the notes accompanying the tables.

Farm prices on the specified dates are based upon reports of farmers and country dealers on the average price paid to farmers, and do not relate to any specified grade. Farm value as shown is computed by applying the December 1 farm price to the total production. The average price received for the portion of the crop sold may be greater or less than this price, depending on the price changes previous and subsequent to December 1 and the amount of the crop sold in the corresponding periods.

Numbers of livestock on farms on January 1 in 1870, 1880, 1890, and 1900, correspond to the census enumerations on June 1 of those years; in 1910, the enumeration as of April 15. The number on January 1, 1920, is based upon the census enumeration as of that date, supplemented by enumerations by State agencies, such as assessors and brand inspection boards. In the intercensal years prior to 1910, and from 1911 to 1916, the numbers of livestock were obtained by methods identical with those used for crop acreages. Estimates from 1917 to 1919, and from 1920 to date are based upon a sample of approximately 2 per cent, supplemented by trends derived from assessors' enumerations, reports of brand inspection boards, market movements, and stockyard receipts. The census bases are not always comparable from one decade to another through both changes of dates and classifications.

The average price per head on January 1 is estimated from reports of correspondents relating to livestock in their vicinity. The farm value on January 1 is computed by applying the average price per head to the number of head on farms.

Certain statistics represent enumerations made by the department in connection with the administration of regulatory and inspection laws. Certain other statistics represent enumerations made by the department in compliance with general legislation authorizing the collection and dissemination of information on agricultural products.

Statistics relating to supplies, movements, and market prices of agricultural products in the United States are derived from official sources as far as available; otherwise from reliable unofficial sources. In all cases wherein the data presented did not cover the field or a major sample thereof, data most representative of the various commodities, movements, and markets have been selected.

With some crops marketing and movement into consumptive channels takes place entirely within the calendar year in which the crop was produced. For many crops marketing takes place during portions of two calendar years. For a few crops, as potatoes, marketing extends beyond a 12-month period. In order that the movement and prices of the particular crop may be followed through, the months in which the crop moved have been used as the "year."

Weighted averages of prices are shown in all cases where a weighting factor was available. For instance, the weighted price of wheat in Chicago is based on the number of carload sales reported, which ranges from 42 to 55 per cent of all receipts on that market. In the case of hogs at Chicago, the weighted average price is based on total sales of butcher hogs to slaughterers. With many commodities, however, data as to quantities sold are unobtainable; in all such cases average prices are based on price quotations without reference to quantity.

It should be remembered that, due to changes in market conditions or quality of delivery in different years on or under the same grade description or specifications, prices derived from different sources may not be strictly comparable, although for most general purposes they are entirely satisfactory. For instance, the changes in the description of many kinds of livestock which were made July 1, 1923, while not affecting certain price series, made others only fairly comparable and made comparison impossible in other cases. The data as to commercial stocks and movements of various commodities are as nearly complete as practicable and feasible, and are considered fairly representative.

Data originating with other departments and agencies are included because of their general interest to the agricultural industry. The sources of such data are given in connection with the tables. Care has been taken to quote only such sources as are generally considered reliable.

Statistics of acreage and production in foreign countries are compiled as far as possible from official sources and are therefore subject to whatever errors may result from shortcomings in the reporting and statistical services of the various countries. Inaccuracies also result from differences in nomenclature and classification in foreign countries, and through the conversion of foreign units into domestic equivalents. Except where otherwise stated, pre-war data refer to pre-war boundaries. Yields per acre are calculated from acreage and production, both rounded to thousand units, and are therefore subject to a greater possibility of error when calculated for countries with small acreage.

The tables of international trade cover substantially the international trade of the world. The total imports and the total exports in any one year can not be expected to balance, although disagreements tend to be compensated over a series of years. Among the sources of disagreement are: The different periods covered by the "year" of various countries; imports received in the year subsequent to the year of export; lack of uniformity in classification of goods as among countries; different trade practices and varying degrees of failure in recording countries of origin and ultimate destination; different practices in recording reexported goods; and different methods of treating free ports. The exports given are domestic exports and the imports given are imports for consumption, whenever it is possible to distinguish such imports from general imports. While there are some inevitable omissions, there may be some duplication because of reshipments which do not appear as such in the official reports. In the trade tables, figures for the United States include Alaska, Porto Rico, and Hawaii, but not the Philippine Islands.

Since the statistics for the current year are in many cases preliminary and subject to revision on the basis of later and fuller information, the reader is cautioned to use always the figures as they appear in the latest issue of the Yearbook.

BREAD GRAINS.

WHEAT.

Table 1.—*Wheat: Acreage, production, value, exports, etc., in the United States, 1869–1923.*

Calendar year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago cash price per bushel No. 2 Northern spring.[2] December. Low.	December. High.	Following May. Low.	Following May. High.	Domestic exports, including flour, fiscal year beginning July 1.[3]	Imports, including flour, fiscal year beginning July 1.[3]	Per cent of crop exported.
	1,000 acres.	*Bush. of 60 lbs.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*	*Per cent.*
1869	19,181	13.6	260,147	76.5	199,025	10.38	63	76	79	92	53,900,780	1,285,976	20.7
1870	18,993	12.4	235,885	94.4	222,767	11.73	91	98	113	120	52,574,111	867,489	22.3
1871	19,944	11.6	230,722	114.5	264,076	13.24	107	111	120	143	38,995,755	2,410,738	16.9
1872	20,858	12.0	249,997	111.4	278,522	13.35	97	108	112	122	52,014,715	1,841,049	20.8
1873	22,172	12.7	281,255	106.9	300,670	13.56	96	106	105	114	91,510,398	2,116,777	32.5
1874	24,967	12.3	308,103	86.3	265,881	10.65	78	83	78	94	72,912,817	367,987	23.7
1875	26,382	11.1	292,136	89.5	261,397	9.91	82	91	89	100	74,750,682	1,664,138	25.6
1876	27,627	10.5	289,356	97.0	280,743	10.16	104	117	130	172	57,043,936	366,061	19.7
1877	26,278	13.9	364,194	105.7	385,089	14.65	103	108	98	113	92,141,626	1,390,713	25.3
1878	32,109	13.1	420,122	77.6	325,814	10.15	81	84	91	102	150,502,506	2,074,321	35.8
1879	*35,430*	14.1	499,893	110.6	552,884	15.60	122	133½	112½	119	180,304,181	488,687	36.1
1880	37,987	13.1	498,550	95.1	474,202	12.48	93½	109¾	101	112⅝	186,321,514	212,600	37.4
1881	37,709	10.2	383,280	119.2	456,880	12.12	124¾	129	123	140	121,892,389	865,467	31.8
1882	37,067	13.6	504,185	88.4	445,602	12.02	91⅜	94¾	108	113⅜	147,811,316	1,087,011	29.3
1883	36,456	11.6	421,086	91.1	383,649	10.52	94⅝	99¼	85	94¾	111,534,182	32,474	26.5
1884	39,476	13.0	512,765	64.5	330,862	8.38	69½	76⅞	85⅜	90¾	132,570,366	212,312	25.9
1885	34,189	10.4	357,112	77.1	275,320	8.05	82⅞	89	72⅛	79	94,565,793	388,415	26.5
1886	36,806	12.4	457,218	68.7	314,226	8.54	75⅛	79½	80¾	88¾	153,804,969	282,400	33.6
1887	37,642	12.1	456,329	68.1	310,613	8.25	75⅜	79¼	81¼	89⅞	119,625,344	594,800	26.2
1888	37,336	11.1	415,868	92.6	385,248	10.32	96⅝	105½	77¼	95½	88,600,743	135,851	21.3
1889	*38,580*	12.9	434,383	69.5	301,869	8.99	76¾	80½	89¾	100	109,430,467	162,546	25.2
1890	34,048	11.1	378,097	83.3	315,112	9.25	87½	92¾	98⅞	108¼	106,181,316	583,826	28.1
1891	37,820	15.5	584,504	83.4	487,403	12.89	89⅜	93¼	80	85¾	225,665,811	2,462,365	38.6
1892	39,552	13.3	527,987	62.2	328,331	8.30	69½	73	68¼	76¼	191,912,635	968,125	36.3
1893	37,934	11.3	427,553	53.5	228,599	6.03	59⅛	64½	52⅛	60½	164,283,129	1,182,864	38.4
1894	39,425	13.1	516,485	48.9	252,709	6.41	52¾	63⅜	60¾	85⅜	144,812,718	1,438,399	28.[illegible]
1895	40,848	13.9	569,456	50.3	286,539	7.01	53⅜	64¼	57⅛	67⅝	126,443,968	2,116,303	22.[illegible]
1896	43,916	12.4	544,193	71.7	390,346	8.89	74⅝	93⅛	68¾	97⅞	145,124,972	1,544,242	26.7
1897	46,016	13.3	610,254	80.9	493,683	10.72	92	109	117	185	217,306,005	2,058,938	35.6
1898	51,007	15.1	772,163	58.2	449,022	8.80	62¾	70	68⅜	79½	222,618,420	1,875,173	28.8
1899	*52,589*	12.1	636,051	58.6	372,982	7.09	64	69½	63⅜	67½	186,096,762	320,194	29.3
1900	51,387	11.7	602,708	62.0	373,578	7.27	69¼	74⅜	70	75⅜	215,990,073	603,101	35.8
1901	52,473	15.0	788,638	62.6	493,766	9.41	73	79½	72⅜	76½	234,772,516	120,502	29.8
1902	49,649	14.6	724,808	63.0	456,851	9.20	71⅞	77¾	74¾	80⅝	202,905,598	1,080,128	28.0
1903	51,632	12.9	663,923	69.5	461,439	8.94	77¾	87	87¾	101½	120,727,613	217,682	18.2
1904	47,825	12.5	596,911	92.4	551,788	11.54	115	122	89½	113¾	44,112,910	3,286,189	7.4
1905	49,389	14.7	726,819	74.6	542,543	10.99	82½	90	80¼	87¼	97,609,007	261,908	13.4
1906	47,800	15.8	756,775	66.2	501,316	10.49	-----	-----	84	106	146,700,425	590,002	19.4
1907	45,116	14.1	637,981	86.5	552,074	12.24	-----	-----	-----	-----	163,043,669	519,785	25.6
1908	45,970	14.0	644,656	92.2	594,128	12.92	106½	112	120½	137	114,268,468	456,940	17.7
1909	*44,262*	15.8	700,434	98.4	689,108	15.57	106	119¾	100	119¼	87,364,318	815,617	12.5
1910	45,681	13.9	635,121	88.3	561,051	12.28	104	110	98	106	69,311,760	1,146,558	10.9
1911	49,543	12.5	621,338	87.4	543,063	10.96	105	110	115	122	79,689,404	3,413,626	12.8
1912	45,814	15.9	730,267	76.0	555,280	12.12	85	90¾	90½	96	142,879,596	1,282,039	19.6
1913	50,184	15.2	763,380	79.9	610,122	12.16	89½	93	96	100	145,590,349	2,383,537	19.1
Aver.	47,097	14.7	690,108	85.7	591,725	12.56	97.9	104.7	99.9	108.6	104,967,085	1,808,275	15.2
1914	53,541	16.6	891,017	98.6	878,680	16.41	115	131	141	164½	332,464,975	715,369	37.3
1915	60,469	17.0	1,025,801	91.9	942,303	15.58	106	128½	116	126	243,117,026	7,187,650	23.7
1916	52,316	12.2	636,318	160.3	1,019,968	19.50	155½	190	258	340	203,573,928	24,924,985	32.0
1917	45,089	14.1	636,655	200.8	1,278,112	28.35	220	220	220	220	132,578,633	31,215,213	20.8
1918	59,181	15.6	921,438	204.2	1,881,826	31.80	220	220	245	280	287,401,579	11,288,591	31.2
1919	75,694	12.8	967,979	214.9	2,080,056	27.48	280	325	295	345	219,864,548	5,495,516	22.7
1920	61,143	13.6	833,027	143.7	1,197,263	19.58	164	187	142	178	366,077,439	57,398,002	43.9
Aver.	58,205	14.5	844,605	156.9	1,325,458	22.77	180.1	200.2	202.4	236.2	255,011,161	19,746,475	30.2
1921	63,696	12.8	814,905	92.6	754,834	11.85	118½	138	127	173	279,406,799	17,251,482	34.3
1922	62,317	13.9	867,598	100.7	873,412	14.02	121	139¾	120¼	129¼	221,923,184	19,944,934	25.6
1923[4]	58,308	13.5	785,741	92.3	725,501	12.44	110	119½	-----	-----	-----------	-----------	-----

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] No. 1 Northern spring to 1915. Chicago Daily Trade Bulletin.
[3] Bureau of Foreign and Domestic Commerce.
[4] Preliminary.

TABLE 2.—*Winter and spring wheat: Acreage sown and harvested, production, and farm value, United States, 1910–1923.*

Calendar year.	Winter wheat.						Spring wheat.				
	Acreage sown in preceding fall.	Acreage harvested.	Average yield per acre.	Production.	Average farm price Dec. 1.	Total farm value Dec. 1.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Total farm value Dec. 1.
	1,000 acres.	*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*
1910	31, 659	27, 329	15. 9	434, 142	88. 1	382, 318	18, 352	11. 0	200, 979	88. 9	178, 733
1911	32, 648	29, 162	14. 8	430, 656	88. 0	379, 151	20, 381	9. 4	190, 682	86. 0	163, 912
1912	33, 229	26, 571	15. 1	399, 919	80. 9	323, 572	19, 243	17. 2	330, 348	70. 1	231, 708
1913	33, 124	31, 699	16. 5	523, 561	82. 9	433, 995	18, 485	13. 0	239, 819	73. 4	176, 127
1914	37, 248	36, 008	19. 0	684, 990	98. 6	675, 623	17, 533	11. 8	206, 027	98. 6	203, 057
1915	42, 431	41, 308	16. 3	673, 947	94. 7	638, 149	19, 161	18. 4	351, 854	86. 4	304, 154
1916	39, 245	34, 709	13. 8	480, 553	162. 7	781, 906	17, 607	8. 8	155, 765	152. 8	238, 062
1917	38, 359	27, 257	15. 1	412, 901	202. 8	837, 237	17, 832	12. 5	223, 754	197. 0	440, 875
1918	43, 126	37, 130	15. 2	565, 099	206. 3	1, 165, 995	22, 051	16. 2	356, 339	200. 9	715, 831
1919	51, 051	50, 494	15. 1	760, 377	210. 5	1, 600, 805	25, 200	8. 2	207, 602	230. 9	479, 251
1920	44, 861	40, 016	15. 3	610, 597	148. 6	907, 291	21, 127	10. 5	222, 430	130. 4	289, 972
1921	45, 625	43, 414	13. 8	600, 316	95. 1	571, 044	20, 282	10. 6	214, 589	85. 6	183, 700
1922	49, 787	42, 358	13. 8	586, 878	104. 7	614, 399	19, 959	14. 1	280, 720	92. 3	259, 013
1923	46, 100	39, 522	14. 5	572, 340	95. 0	543, 825	18, 786	11. 4	213, 401	85. 1	181, 676

Division of Crop and Livestock Estimates.

TABLE 3.—*Wheat: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Maine	11	4	6	187	100	156	327	170	184
Vermont	9	4	4	126	84	84	158	122	118
New York	475	463	403	9, 137	8, 966	8, 159	9, 868	10, 580	8, 974
New Jersey	81	77	74	1, 539	1, 540	1, 480	1, 739	1, 694	1, 628
Pennsylvania	1, 365	1, 339	1, 283	23, 850	24, 722	24, 338	24, 566	27, 194	24, 338
Delaware	113	109	106	1, 300	1, 766	1, 908	1, 274	1, 907	1, 908
Maryland	590	578	543	8, 260	9, 537	10, 426	8, 508	10, 681	10, 426
Virginia	847	830	838	8, 301	10, 375	11, 145	9, 629	12, 658	12, 260
West Virginia	250	240	226	3, 125	2, 760	2, 964	3, 656	3, 367	3, 433
North Carolina	600	600	544	4, 500	5, 400	6, 038	6, 480	7, 344	7, 729
South Carolina	118	165	175	1, 298	1, 320	1, 925	2, 700	2, 072	2, 964
Georgia	138	190	189	1, 449	1, 520	1, 739	2, 536	2, 280	2, 556
Ohio	2, 434	2, 526	2, 350	30, 185	35, 374	42, 783	32, 600	41, 388	42, 355
Indiana	2, 016	1, 996	2, 076	24, 192	28, 928	34, 248	25, 644	32, 399	33, 563
Illinois	2, 909	3, 196	3, 479	46, 822	55, 432	62, 506	46, 822	59, 312	58, 756
Michigan	945	1, 023	976	14, 840	14, 326	16, 576	15, 433	16, 475	15, 913
Wisconsin	214	176	119	2, 812	3, 006	1, 970	2, 727	3, 096	1, 931
Minnesota	2, 371	1, 989	1, 728	22, 938	27, 276	20, 785	22, 249	27, 548	19, 746
Iowa	555	731	787	9, 944	16, 452	14, 352	8, 751	16, 288	12, 773
Missouri	3, 206	3, 105	2, 919	34, 952	38, 818	37, 947	34, 602	40, 759	36, 809
North Dakota	9, 500	8, 980	8, 262	80, 750	126, 618	58, 660	68, 638	113, 956	50, 448
South Dakota	2, 845	2, 989	2, 812	25, 980	40, 012	26, 906	22, 603	36, 811	21, 793
Nebraska	3, 967	4, 177	3, 174	59, 875	59, 838	31, 388	49, 696	57, 445	26, 052
Kansas	10, 554	9, 756	8, 299	128, 695	122, 861	83, 804	119, 687	120, 404	76, 262
Kentucky	634	650	620	6, 340	7, 475	7, 688	7, 291	8, 820	8, 308
Tennessee	450	472	442	4, 500	4, 484	4, 508	5, 400	5, 515	5, 184
Alabama	20	20	20	210	218	200	321	349	260
Mississippi	6	5	4	84	60	60	109	87	66
Texas	2, 081	1, 249	1, 559	20, 810	9, 992	16, 370	20, 810	10, 991	16, 861
Oklahoma	3, 786	3, 300	3, 300	47, 325	31, 350	36, 300	40, 700	30, 723	33, 759
Arkansas	108	78	70	958	1, 014	770	958	1, 075	832
Montana	2, 715	3, 618	3, 531	33, 430	52, 714	52, 486	28, 416	46, 916	43, 030
Wyoming	193	179	175	3, 316	2, 506	2, 785	2, 620	2, 055	2, 228
Colorado	1, 719	1, 620	1, 390	23, 239	21, 776	18, 000	17, 662	19, 380	14, 940
New Mexico	227	105	108	3, 088	885	1, 300	3, 242	1, 062	1, 404
Arizona	40	49	42	840	1, 274	1, 092	1, 050	1, 465	1, 529
Utah	276	294	272	6, 299	5, 682	6, 566	4, 725	5, 113	5, 975
Nevada	21	21	20	493	550	507	641	660	563
Idaho	1, 123	1, 123	1, 052	26, 952	24, 275	30, 115	19, 405	21, 847	24, 092
Washington	2, 550	2, 486	2, 470	58, 245	32, 104	61, 743	50, 091	33, 388	52, 482
Oregon	1, 062	1, 093	1, 111	25, 364	18, 900	26, 807	21, 560	20, 412	23, 590
California	557	712	748	8, 355	15, 308	16, 157	8, 940	17, 604	17, 450
United States	63, 696	62, 317	58, 308	814, 905	867, 593	785, 741	754, 834	873, 412	725, 501

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 4.—*Winter and spring wheat: Acreage sown and harvested, production, and farm value December 1, by States, in calendar year 1923.*

State.	Winter wheat.[1]						Spring wheat.[1]				
	Acreage sown in preceding fall.	Acreage harvested.	Average yield per acre.	Production.	Average farm price Dec. 1.	Total farm value Dec. 1.	Acreage.	Average yield per acre	Production.	Average farm price Dec. 1.	Total farm value Dec. 1.
	1,000 acres.	*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*
Maine							6	20.0	135	118	184
Vermont							4	21.0	84	140	118
New York	400	357	20.4	7,895	120	5,684	16	16.5	264	110	290
New Jersey	76	74	20.0	1,480	170	1,622					
Pennsylvania	1,905	1,272	19.0	24,168	109	26,168	11	15.5	176	100	170
Delaware	109	106	18.0	1,908	100	1,908					
Maryland	561	543	19.2	10,426	100	10,426					
Virginia	859	838	13.3	11,145	110	12,260					
West Virginia	236	225	13.0	2,964	116	2,436					
North Carolina	555	544	11.1	6,038	128	7,729					
South Carolina	179	175	11.0	1,925	154	2,964					
Georgia	199	189	9.2	1,739	147	2,559					
Ohio	2,674	2,340	18.2	42,588	99	42,162	10	19.5	195	99	193
Indiana	2,204	2,072	16.5	34,188	98	33,504	4	15.0	60	98	59
Illinois	3,559	3,363	18.0	60,534	94	56,902	116	17.0	1,972	94	1,854
Michigan	1,014	968	17.0	16,456	96	15,798	8	15.0	120	96	115
Wisconsin	69	66	17.0	1,122	98	1,100	53	16.0	848	98	831
Minnesota	111	94	16.0	1,504	95	1,430	1,634	11.8	19,281	95	18,317
Iowa	789	741	18.5	13,708	89	12,200	46	14.0	644	89	573
Missouri	2,967	2,914	13.0	37,882	97	36,746	5	13.0	65	97	63
North Dakota							8,252	7.1	58,660	86	50,448
South Dakota	128	77	12.0	924	81	748	2,735	9.5	25,892	81	21,045
Nebraska	3,763	2,822	10.0	28,220	83	23,423	352	9.0	3,168	83	2,029
Kansas	11,507	8,285	10.1	83,678	91	76,147	14	9.0	126	91	115
Kentucky	642	620	12.4	7,688	106	8,303					
Tennessee	453	442	10.2	4,508	115	5,184					
Alabama	22	20	10.0	200	130	260					
Mississippi	4	4	15.0	60	110	66					
Texas	1,695	1,559	10.5	16,370	103	16,861					
Oklahoma	3,626	3,390	11.0	36,300	93	33,759					
Arkansas	73	70	11.0	770	108	832					
Montana	900	738	17.0	12,546	82	10,288	2,793	14.3	39,940	82	32,751
Wyoming	18	15	15.0	225	80	180	160	16.0	2,560	80	2,048
Colorado	1,382	1,060	12.0	12,720	83	10,558	330	16.0	5,280	83	4,382
New Mexico	94	47	9.5	446	108	482	61	14.0	854	109	932
Arizona	46	42	26.0	1,092	140	1,529					
Utah	152	148	19.9	2,945	91	2,680	124	29.2	3,621	94	3,405
Nevada	3	3	25.7	77	115	89	17	25.3	430	115	494
Idaho	420	396	28.0	11,084	80	8,803	659	29.0	19,111	80	15,289
Washington	1,437	1,346	27.5	37,025	85	31,463	1,124	22.0	24,728	85	21,019
Oregon	896	869	25.0	21,725	88	19,118	242	21.0	5,082	88	4,472
California	813	748	22.6	16,157	108	17,450					
United States	46,100	39,523	14.5	572,340	95.0	543,825	18,786	11.4	213,401	85.1	181,676

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 5.—*Durum wheat*[1]: *Estimated yield per acre and production in four States.*

Calendar year.	Yield per acre.					Production.				
	Minnesota.	North Dakota.	South Dakota.	Montana.	Four States.	Minnesota.	North Dakota.	South Dakota.	Montana.	Four States.
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*
1917	15.5	9.0	15.6	9.6	10.9	1,557	14,365	8,941	1,343	26,209
1918	20.6	14.0	19.5	12.9	15.2	2,449	36,586	12,468	4,516	55,995
1919	11.9	7.9	9.3	4.5	8.2	1,465	21,720	6,843	963	30,986
1920	13.6	10.5	12.4	11.5	10.9	1,383	29,299	7,131	4,231	41,934
1921	14.9	9.7	14.9	11.2	10.1	1,745	34,741	10,570	4,299	52,324
1922	16.6	15.0	15.5	14.7	15.2	3,980	56,953	21,979	4,106	87,023
1923	15.5	8.8	12.9	10.5	9.8	2,438	27,687	15,096	1,457	46,553

Division of Crop and Livestock Estimates.

[1] Also included in spring wheat, table 4.

TABLE 6.—*Wheat: Yield per acre, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1908–1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920.	1921	1922	1923
	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
Maine	23.5	25.5	29.7	21.0	23.5	25.5	25.0	27.0	28.0	27.0	14.0	22.0	18.8	22.0	22.7	17.0	25.0	26.0
Vermont	25.0	25.0	29.3	27.8	25.0	24.5	26.3	29.0	30.0	28.0	20.0	22.0	16.0	19.0	22.0	14.0	21.0	21.0
New York	17.5	21.0	23.7	19.5	16.0	20.0	20.0	22.5	25.0	22.0	21.0	18.2	21.0	21.8	21.5	19.2	19.4	20.2
New Jersey	17.3	17.9	18.5	17.4	18.5	17.6	18.0	18.0	20.0	20.0	19.0	17.0	18.0	18.0	18.3	19.0	20.0	20.0
Pennsylvania	18.5	17.0	17.8	13.5	18.0	17.0	16.7	16.1	18.5	19.0	17.5	17.0	17.5	16.6	17.7	17.5	18.5	19.0
Delaware	15.0	14.0	17.0	16.7	17.5	14.5	15.9	20.5	15.0	15.0	16.5	13.0	12.0	17.0	15.6	11.5	16.0	18.0
Maryland	16.4	14.5	17.4	15.5	15.0	13.3	15.1	21.5	16.1	16.0	17.0	15.5	13.5	17.0	16.7	14.0	16.5	19.2
Virginia	11.4	11.2	12.8	12.0	11.6	13.6	12.2	14.5	13.8	12.7	13.0	12.0	11.8	12.5	12.9	9.8	12.5	13.3
West Virginia	13.0	13.0	12.5	11.5	14.5	13.0	12.9	15.5	15.0	14.5	14.0	14.2	12.5	12.5	14.1	12.5	11.5	13.0
North Carolina	10.0	9.5	11.4	10.6	8.9	11.7	10.4	12.0	10.0	9.0	10.5	10.0	7.0	7.9	10.1	7.5	9.0	11.1
South Carolina	9.0	10.0	11.0	11.4	9.2	12.3	10.8	11.5	10.5	8.0	10.5	11.0	10.0	11.0	10.8	11.0	8.0	11.0
Georgia	9.2	10.0	10.5	12.0	9.3	12.2	10.8	12.1	11.0	11.4	8.5	10.2	10.5	10.0	10.5	10.5	8.0	9.2
Ohio	18.0	15.9	16.2	16.0	8.0	18.0	14.8	18.5	20.3	18.5	22.0	19.0	19.8	19.2	18.0	12.4	14.0	18.2
Indiana	16.6	15.3	15.6	14.7	8.0	18.5	14.4	17.4	17.2	18.0	18.5	21.0	14.0	19.2	16.1	12.0	14.5	16.5
Illinois	18.0	17.4	15.0	16.0	8.3	18.7	15.1	18.8	19.0	21.0	18.7	22.0	17.1	15.2	17.4	16.1	17.3	18.0
Michigan	18.0	18.8	18.0	18.0	10.0	18.3	16.0	19.7	21.3	16.6	18.0	14.2	19.4	15.3	17.8	15.7	14.0	17.0
Wisconsin	18.2	19.5	19.3	15.9	19.0	19.3	18.6	19.1	22.7	17.6	22.3	24.3	24.5	15.1	19.2	13.1	17.1	16.6
Minnesota	12.8	16.8	18.0	10.1	15.5	16.2	14.9	10.6	17.0	7.6	17.5	20.9	9.4	9.8	13.3	9.7	13.7	12.0
Iowa	17.2	17.0	21.0	16.4	19.8	20.6	19.0	18.6	19.8	16.3	19.9	18.9	14.8	17.5	18.0	17.9	22.5	18.2
Missouri	10.0	14.7	13.8	15.7	12.5	17.1	14.8	17.0	12.3	8.5	15.3	17.2	13.5	12.5	13.8	10.9	12.5	13.0
North Dakota	11.6	13.7	5.0	8.0	13.0	10.5	11.0	11.2	18.2	5.5	8.0	13.6	6.9	9.0	10.3	8.5	14.1	7.1
South Dakota	12.9	14.1	12.9	4.0	14.2	9.0	10.8	9.1	17.1	6.8	14.0	19.0	8.2	9.2	10.5	9.1	13.4	9.6
Nebraska	17.2	18.8	16.2	13.4	17.6	17.9	16.8	18.6	18.3	19.4	13.8	11.2	13.8	16.8	16.0	15.1	14.3	9.9
Kansas	12.6	14.4	14.1	10.7	15.5	13.0	13.5	20.5	12.5	12.0	12.2	14.1	13.8	15.4	14.4	12.2	12.6	10.1
Kentucky	11.6	11.8	12.8	12.7	10.0	13.6	12.2	16.5	11.0	9.0	12.0	13.0	11.5	10.2	11.9	10.0	11.5	12.4
Tennessee	10.0	10.4	11.7	11.5	10.5	12.0	11.2	15.5	10.5	9.5	9.5	10.0	9.3	9.5	10.5	10.0	9.5	10.2
Alabama	11.5	10.5	12.0	11.5	10.6	11.7	11.3	13.0	12.0	9.5	10.0	9.0	9.0	9.6	10.3	10.5	10.9	10.0
Mississippi	14.5	11.0	14.0	12.0	12.0	14.0	12.6	13.0	20.0	15.0	15.0	16.5	14.0	10.0	14.8	14.0	12.0	15.0
Texas	11.0	9.1	15.0	9.4	15.0	17.5	13.2	13.0	15.5	11.0	12.0	10.0	16.5	13.0	13.0	10.0	8.0	10.5
Oklahoma	11.6	12.8	16.3	8.0	12.8	10.0	12.0	19.0	11.0	6.9	7.1	5.5	12.6	14.0	13.5	12.5	9.5	11.0
Arkansas	16.0	11.4	13.9	10.5	10.0	13.0	11.8	13.0	12.5	8.0	16.0	12.0	9.5	9.5	11.5	9.3	13.0	11.0
Montana	24.2	30.8	22.0	28.7	24.1	23.8	25.9	30.2	26.5	19.3	10.4	12.6	2.7	10.3	14.6	12.3	14.6	14.9
Wyoming	25.4	28.7	25.0	26.0	28.7	25.0	26.7	22.9	26.5	21.6	21.2	23.4	14.4	20.0	21.7	17.2	14.0	15.9
Colorado	21.0	29.5	22.3	18.9	24.2	21.0	23.2	23.8	23.8	19.8	22.6	12.3	13.7	18.0	19.1	18.5	13.4	12.9
New Mexico	25.0	24.5	20.0	22.9	20.9	18.8	21.4	24.2	22.2	18.6	12.7	16.7	19.0	18.3	18.8	13.6	8.4	12.0
Arizona	26.7	25.0	22.3	29.6	30.7	32.0	27.9	28.0	28.0	29.0	25.0	26.0	25.0	24.0	26.4	21.0	26.0	26.0
Utah	26.5	25.9	22.1	22.3	25.7	24.2	24.0	25.0	25.7	21.2	19.1	20.2	15.4	19.5	20.9	22.8	19.3	24.1
Nevada	30.0	28.7	26.5	28.3	29.2	27.7	28.1	29.6	29.6	28.9	27.8	25.5	21.2	22.3	26.4	23.5	26.2	25.4
Idaho	25.2	27.8	22.6	30.7	23.6	27.6	27.5	26.2	28.0	22.8	20.3	21.3	18.2	22.4	22.9	24.0	21.6	28.6
Washington	18.8	23.2	16.9	22.7	22.5	23.2	21.9	23.5	25.2	23.7	16.8	13.1	16.8	16.9	19.3	22.8	12.9	25.0
Oregon	20.8	20.2	22.1	21.0	25.0	22.0	21.9	20.8	23.2	23.0	14.5	14.7	19.2	20.9	19.3	23.4	17.3	24.1
California	14.6	14.0	15.0	18.0	17.0	14.0	16.2	17.0	16.0	16.0	19.8	15.0	15.5	14.0	16.2	15.0	21.5	21.6
United States	14.0	15.8	13.9	12.5	15.9	15.2	14.7	16.6	17.0	12.2	14.1	15.6	12.8	13.6	14.6	12.8	13.9	13.5

Division of Crop and Livestock Estimates.

TABLE 7.—*Winter wheat: Yield per acre in States producing both winter and spring wheat, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1908–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
New York	17.5	21.0	23.7	19.5	16.0	20.0	20.0	22.5	25.0	22.0	21.0	18.0	22.0	23.3	21.7	19.5	19.5	20.4
Pennsylvania	18.5	17.0	17.8	13.5	18.0	17.0	16.7	18.1	18.5	19.0	17.5	17.0	17.5	16.6	17.7	17.5	18.5	19.0
Ohio	16.0	15.9	16.2	16.0	8.0	18.0	14.8	18.5	20.3	18.5	22.0	19.0	20.0	19.2	18.0	12.4	14.0	18.2
Indiana	16.6	15.3	15.6	14.7	8.0	18.5	14.4	17.4	17.2	18.0	18.5	21.0	15.0	19.2	16.2	12.0	14.5	16.5
Illinois	18.0	17.4	15.0	16.0	8.3	18.7	15.1	18.5	19.0	21.0	18.5	21.5	17.5	15.1	17.3	16.2	17.5	18.0
Michigan	18.0	18.8	18.0	18.0	10.0	18.3	16.0	19.7	21.3	16.6	18.0	14.0	20.3	15.4	17.9	16.0	14.0	17.0
Wisconsin	19.5	20.4	20.0	17.5	19.5	20.1	19.5	21.5	23.0	19.0	24.0	21.2	19.6	22.0	21.5	16.0	18.6	17.0
Minnesota						10.2		19.5	19.5	14.0	18.0	18.0	15.0	19.0	17.7	14.0	14.0	16.0
Iowa	21.0	21.6	21.2	19.7	23.0	23.4	21.8	21.6	24.5	18.5	17.5	20.5	18.3	19.7	20.7	19.2	23.2	18.5
Missouri	10.0	14.7	13.8	15.7	12.5	17.1	14.8	17.0	12.3	8.5	15.3	17.2	13.5	12.5	13.8	10.9	12.5	13.0
South Dakota						9.0		14.0	20.5	18.5	14.0	17.0	13.0	14.5	15.9	14.0	19.0	12.0
Nebraska	17.8	19.4	16.5	13.8	18.0	18.6	17.3	19.3	18.5	20.0	12.0	11.1	14.8	17.4	16.2	15.3	14.5	10.0
Kansas	12.8	14.5	14.2	10.8	15.5	13.0	13.6	20.5	12.5	12.0	12.2	14.1	13.8	15.4	14.4	12.2	12.6	10.1
Montana		32.5	28.0	31.7	28.5	26.6	27.3	33.0	27.0	21.5	13.0	12.7	5.2	12.0	16.3	14.0	15.2	17.0
Wyoming	25.0	32.5	25.0	26.0	28.0	25.0	27.3	24.0	26.0	21.0	20.0	24.0	13.0	20.0	21.0	18.0	14.0	15.0
Colorado		29.7	23.0	18.0	24.5	22.1	23.3	23.0	23.0	20.0	23.0	10.5	12.0	17.5	19.3	12.0	13.0	12.0
New Mexico			20.0	25.0	20.0	18.0		25.0	23.0	16.5	10.0	10.0	16.1	18.2	17.3	12.6	5.5	9.5
Utah	28.0	24.0	22.0	23.0	24.0	22.0	23.3	25.0	23.0	20.0	14.0	16.4	12.7	15.9	18.5	19.9	14.0	19.9
Nevada			24.0	28.0	27.5	28.0		29.0	29.0	28.5	26.0	23.0	19.7	18.7	24.7	20.2	19.7	25.7
Idaho	30.0	29.0	22.7	31.5	25.7	27.4	28.1	27.5	29.0	24.0	18.0	22.4	18.5	23.0	22.7	24.0	19.5	26.0
Washington	20.5	25.8	20.5	27.3	27.6	27.0	25.6	26.5	27.6	25.5	21.5	21.3	21.1	24.0	24.4	27.9	15.0	27.5
Oregon	23.3	21.0	22.7	22.2	26.8	21.4	23.0	23.0	24.0	23.0	17.5	17.0	21.2	23.2	21.0	25.5	19.0	26.9
United States	14.4	15.8	15.9	14.8	15.1	16.5	15.6	19.0	16.3	13.8	15.1	15.2	15.1	15.2	15.7	13.8	13.8	14.5

Division of Crop and Livestock Estimates.

TABLE 8.—*Spring wheat: Yield per acre in States producing both winter and spring wheat, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
New York											21.0	20.0	15.0	18.0		14.5	16.0	16.5
Pennsylvania												17.0	15.0	16.0		15.0	15.0	15.5
Ohio												26.5	16.0	13.0		12.5	15.0	19.5
Indiana											20.0	23.0	9.0	12.0		12.0	11.0	15.0
Illinois											25.0	26.9	14.5	16.5		14.5	14.5	17.0
Michigan											17.7	18.0	11.2	10.0		9.0	14.5	15.0
Wisconsin	17.5	19.0	18.7	14.5	18.5	18.6	17.9	17.0	22.5	16.6	21.2	24.7	12.4	12.6	18.1	11.1	15.3	16.0
Minnesota	12.8	16.8	16.0	10.1	15.5	16.2	14.9	10.5	17.0	7.5	17.5	21.0	9.3	9.5	13.2	9.5	13.7	11.8
Iowa	15.5	14.7	20.9	13.8	17.0	17.0	16.7	13.5	16.7	13.0	21.5	18.0	9.5	11.3	14.8	10.3	14.3	14.0
Missouri											9.0	15.6	8.5	13.0		12.0	13.5	13.0
South Dakota	12.8	14.1	12.8	4.0	14.2	9.0	10.8	9.0	17.0	6.3	14.0	19.0	8.0	9.0	11.8	9.0	13.2	9.5
Nebraska	13.0	14.0	13.9	10.0	14.1	12.0	12.8	11.5	16.0	12.5	16.5	11.9	8.5	9.5	12.3	11.3	11.4	9.0
Kansas	5.5	11.5	8.4	4.2	15.0	8.5	9.5	15.0	12.0	10.5	6.0	8.0	9.3	12.5	10.5	8.2	8.3	9.0
Montana	24.2	28.8	22.0	25.2	23.5	21.5	24.2	17.0	26.0	18.0	9.0	12.5	2.3	10.0	13.5	12.0	14.4	14.3
Wyoming	25.5	27.0	25.0	26.0	29.2	26.0	26.4	22.0	27.0	22.0	22.0	26.0	15.0	20.0	22.0	17.0	14.0	16.0
Colorado	21.0	29.4	21.9	19.5	24.0	21.0	23.2	22.5	21.0	19.5	22.0	17.5	15.4	19.4	19.6	19.0	15.0	16.0
New Mexico	25.0	24.5	20.0	20.5	22.0	19.0	21.2	23.0	22.5	21.5	18.0	24.0	18.7	18.5	20.9	16.6	11.1	14.0
Utah	27.5	28.5	25.3	27.0	29.2	28.0	27.6	25.0	28.0	25.0	25.0	23.8	18.7	23.7	24.2	26.3	25.6	29.2
Nevada	30.0	28.7	29.0	32.5	30.2	31.0	30.3	30.0	32.0	31.5	28.0	25.0	21.4	23.0	27.3	24.0	27.3	25.3
Idaho	25.4	26.0	20.4	29.0	28.3	28.0	26.3	24.0	26.5	23.5	22.0	21.0	18.0	24.0	22.7	24.0	23.0	29.0
Washington	15.0	20.6	14.5	19.5	20.4	19.0	18.8	20.0	22.2	21.5	13.6	9.5	13.0	11.9	16.0	15.0	9.3	22.0
Oregon	16.5	18.7	18.0	17.7	19.5	19.5	18.7	16.5	17.0	23.0	11.0	11.0	13.0	17.0	15.5	17.0	11.5	21.0
United States	13.2	15.8	11.0	9.4	17.2	13.0	13.3	11.8	18.4	8.8	12.5	16.2	8.2	10.5	12.3	10.6	14.1	11.4

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TABLE 9.—*Winter and spring wheat: Condition of crop, United States, 1st of month, yield per acre, and per cent of winter wheat area abandoned, calendar years, 1890–1923.*

Calendar year.	Winter wheat.							Spring wheat.				
	December of previous year.	Apr.	Area abandoned.	May.	June.	July.[1]	Yield per acre.	June.	July.	Aug.	Sept.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1890	95.3	81.0	.....	80.0	78.1	76.2	10.9	91.3	94.4	83.2	79.7	11.4
1891	98.4	96.9	.....	97.9	96.6	96.2	14.7	92.6	94.1	95.5	97.2	16.7
1892	85.3	81.2	.....	84.0	88.3	89.6	13.7	92.3	90.9	86.7	81.2	12.7
1893	87.4	77.4	.....	75.4	75.5	77.7	12.0	86.4	74.1	67.0	68.9	10.2
1894	91.5	86.7	.....	81.4	83.2	83.9	14.0	88.0	68.4	67.1	69.9	11.5
1895	89.0	81.4	.....	82.9	71.1	65.8	11.6	97.8	102.2	95.9	94.9	18.0
1896	81.4	77.1	.....	82.7	77.9	75.6	11.8	99.9	93.3	78.9	73.8	13.5
1897	99.5	81.4	.....	80.2	78.5	81.2	14.1	89.6	91.2	86.7	80.8	12.5
1898	.....	86.7	.....	86.5	90.8	85.7	14.9	100.9	95.0	96.5	91.7	16.0
1899	92.6	77.9	.....	76.2	67.3	65.6	11.5	91.4	91.7	83.6	77.2	13.3
1900	97.1	82.1	.....	86.9	82.7	80.8	13.3	87.3	55.2	56.4	56.1	10.6
1901	97.1	91.7	6.3	94.1	87.8	88.3	15.2	92.0	95.6	80.3	78.4	14.7
1902	86.7	78.7	15.1	76.4	76.1	77.0	14.4	95.4	92.4	89.7	87.2	14.7
1903	99.7	97.3	2.8	92.6	82.2	78.8	12.3	95.9	82.5	77.1	78.1	14.0
1904	86.6	76.5	15.4	76.5	77.7	78.7	12.4	93.4	93.7	87.5	66.2	12.8
1905	82.9	91.6	4.6	92.5	85.5	82.7	14.3	93.7	91.0	89.2	87.3	14.7
1906	94.1	89.1	5.5	90.9	82.7	85.6	16.7	93.4	91.4	86.9	83.4	13.7
1907	94.1	89.9	11.2	82.9	77.4	78.3	14.6	88.7	87.2	79.4	77.1	13.2
1908	91.1	91.3	3.9	89.0	86.0	80.6	14.4	95.0	89.4	80.7	77.6	13.2
1909	85.3	82.2	7.4	83.5	80.7	82.4	15.8	95.2	92.7	91.6	88.6	15.8
1910	95.8	80.8	13.7	82.1	80.0	81.5	15.9	92.8	61.6	61.0	63.1	11.0
1911	82.5	83.3	10.7	86.1	80.4	76.8	14.8	94.6	78.8	59.8	56.7	9.4
1912	86.6	80.6	20.0	79.7	74.3	73.3	15.1	95.8	89.3	90.4	90.8	17.2
1913	93.2	91.6	4.3	91.9	83.5	81.6	16.5	93.5	73.8	74.1	75.3	13.0
Av. 1909–1913	88.7	83.7	11.2	84.7	79.8	79.1	15.6	94.4	78.2	75.4	74.9	13.3
1914	97.2	95.6	3.3	96.0	92.7	94.1	19.0	95.5	92.1	75.5	68.0	11.5
1915	88.8	88.8	2.6	92.9	85.8	84.4	16.3	94.9	93.3	93.4	94.6	18.4
1916	87.7	78.3	11.6	82.4	73.2	75.7	13.8	88.2	89.0	63.4	48.6	8.8
1917	85.7	63.4	28.9	78.2	70.9	75.9	15.1	91.6	83.6	68.7	71.2	12.5
1918	79.3	78.6	13.9	86.4	83.8	79.5	15.2	95.2	86.1	79.6	82.1	16.2
1919	98.5	99.8	1.1	100.5	94.9	89.0	15.1	91.2	80.9	53.9	48.5	8.2
1920	85.2	75.6	10.8	79.1	78.2	79.7	15.3	89.1	88.0	73.4	64.1	10.5
Av. 1914–1920	88.8	82.9	10.3	87.2	82.8	82.6	15.7	92.2	87.6	72.6	68.2	12.3
1921	87.9	91.0	4.6	88.5	77.9	77.2	13.8	98.4	80.8	66.6	62.5	10.6
1922	76.0	78.4	14.9	83.5	81.9	77.0	13.8	90.7	83.7	80.4	80.1	14.1
1923	79.5	75.2	14.3	80.1	76.3	76.8	14.5	90.2	82.4	69.6	65.1	11.4
1924	88.0											

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 10.—*Wheat: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	8.5	3.2	0.7	2.4	2.0	1.2	0.6	18.9	1.6	1.1	0.2	0.3	22.8
1910	18.9	.9	.2	6.6	.5	2.6	.2	30.0	.9	1.9	.4	.4	33.8
1911	25.5	.8	[2]	1.5	.4	3.8	.1	32.3	1.9	1.9	.2	.2	37.8
1912	8.1	1.8	.3	9.5	1.5	1.8	.4	24.0	1.8	2.3	.3	.2	29.5
1913	14.2	.4	.2	1.9	.7	1.7	.3	20.0	.3	2.2	.1	.1	23.5
1914	6.7	1.4	.1	1.1	1.0	2.7	.2	13.4	3.0	2.6	.1	.1	19.8
1915	1.3	7.3	1.0	1.2	1.6	.1	.4	13.0	2.4	3.6	.1	.1	19.7
1916	6.9	3.8	.6	5.1	1.3	2.7	.2	21.2	12.6	4.0	.1	.1	38.7
1917	19.1	.4	.1	11.8	1.0	1.6	.2	34.4	.7	.7	.1	.1	36.3
1918	14.6	.3	.1	3.8	1.1	2.0	.2	22.4	1.5	1.1	.3	.1	25.7
1919	12.3	6.2	.4	1.3	.8	2.9	.3	24.3	10.2	2.5	.1	[2]	37.6
1920	8.1	2.3	.2	1.0	1.0	1.5	.4	17.6	9.5	4.4	.1	.1	32.2
1921	13.3	2.0	.2	1.8	1.4	3.6	.3	23.9	5.2	3.6	.1	.1	33.1
1922	13.1	2.0	.4	.6	2.0	1.4	1.2	21.4	3.4	3.4	.1	.1	28.7

Division of Crop and Livestock Estimates.

[1] Includes all other causes.

[2] Less than 0.05 per cent.

TABLE 11.—*Winter wheat: Percentage of acreage abandoned,[1] calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
New York	2.5	5.5	1.4	4.2	5.1	2.0	3.6	1.0	1.2	1.0	4.0	15.0	0.7	1.5	3.5	2.0	2.5	3.2
New Jersey	2.0	3.2	3.4	3.4	5.7	4.0	3.9	4.5	4.0	3.0	5.0	6.0	1.5	10.0	4.9	1.8	4.0	3.0
Pennsylvania	2.2	2.7	2.3	3.8	4.6	3.0	3.3	2.0	4.9	2.5	4.0	5.0	.5	3.5	3.2	1.0	2.0	2.5
Delaware	2.5	2.0	1.7	3.4	3.9	2.7	2.7	2.0	2.5	3.0	3.5	9.0	0	5.0	3.6	2.5	2.0	3.0
Maryland	1.0	1.5	1.1	2.9	3.0	1.6	2.1	1.5	3.0	3.8	4.2	5.0	.5	4.0	3.1	2.0	2.0	3.2
Virginia	2.5	1.3	2.9	2.6	2.8	1.8	2.3	1.9	3.5	2.0	5.0	1.0	1.0	3.0	2.5	2.2	1.5	2.5
West Virginia	2.1	1.7	3.6	4.0	3.3	3.3	3.2	2.0	2.0	2.0	2.5	2.0	.5	4.0	2.1	1.5	1.5	3.5
North Carolina	2.5	1.8	3.5	3.8	3.3	2.5	3.0	2.6	4.0	1.5	10.0	2.0	1.0	2.0	3.3	2.0	1.0	2.0
South Carolina	3.9	3.3	3.8	3.5	4.3	4.0	3.8	3.0	3.3	3.0	25.0	2.0	2.0	2.0	5.8	2.5	10.0	2.0
Georgia	4.5	3.0	6.0	3.3	5.0	3.0	4.1	3.0	5.0	4.0	38.0	11.0	6.0	5.0	10.3	3.5	9.0	5.0
Ohio	2.0	10.0	5.6	3.2	45.2	3.3	13.5	1.3	1.8	18.0	4.0	5.0	.1	16.0	6.6	2.0	2.5	12.5
Indiana	2.1	8.5	6.0	3.6	46.5	3.5	13.6	1.3	2.0	30.0	20.0	1.0	1.0	13.0	9.8	3.0	5.0	6.0
Illinois	2.4	7.5	8.0	4.1	53.5	2.0	15.0	2.0	2.0	33.0	35.0	3.0	1.0	18.0	13.4	2.3	5.0	5.5
Michigan	2.5	5.0	5.5	3.2	26.0	4.5	8.8	2.3	1.0	3.5	5.0	24.0	1.0	7.0	6.3	2.5	2.0	4.5
Wisconsin	7.5	6.0	4.4	7.2	7.2	4.6	5.9	5.0	3.0	20.0	5.0	45.0	2.0	4.0	12.0	10.0	16.6	4.0
Minnesota								8.0	3.0	25.0	15.0	18.0	3.5	14.0	12.4	7.0	12.0	15.0
Iowa	1.3	4.0	28.1	4.0	18.3	3.5	11.6	2.0	1.0	18.0	62.0	13.0	.4	6.0	14.6	1.0	2.0	5.0
Missouri	2.0	9.0	17.5	3.0	23.2	1.5	10.8	1.4	2.5	20.0	22.0	1.0	.6	9.0	8.1	2.0	3.7	1.3
South Dakota								14.0	3.0	9.0	34.0	20.0	5.0	15.0	14.3	7.5	6.0	40.0
Nebraska	4.0	7.2	28.5	10.0	10.5	2.0	11.6	4.0	1.0	4.0	75.0	10.0	.3	8.0	14.6	2.0	12.0	25.0
Kansas	2.5	8.0	30.7	27.0	18.0	7.0	18.1	4.5	3.5	5.0	53.0	29.0	.4	16.0	15.9	8.0	27.0	28.0
Kentucky	2.5	5.5	6.5	3.9	13.0	5.0	6.8	2.3	7.0	6.0	16.0	2.0	1.0	14.0	6.9	3.5	3.0	3.5
Tennessee	2.5	3.0	6.4	4.3	5.6	3.2	4.5	2.0	4.5	4.5	35.0	2.0	1.8	14.0	9.1	2.0	2.0	2.5
Alabama	5.0	5.0	6.7	6.2	7.0	4.3	5.8	8.0	5.0	6.0	30.0	3.0	2.0	3.0	8.1	5.0	6.0	7.0
Mississippi	4.0	0	0	10.0	17.0	2.5	5.9	15.0	10.0	6.0	25.0	5.0	5.0	10.0	10.9	20.0	5.0	8.0
Texas	6.5	37.0	3.3	7.0	1.5	11.0	12.0	5.0	.5	33.0	25.0	45.0	3.0	10.0	17.4	4.0	41.0	8.0
Oklahoma	2.3	7.5	5.0	34.0	10.5	7.0	12.8	3.0	.5	5.0	17.0	20.0	.1	13.0	8.4	4.9	24.0	9.0
Arkansas	4.9	3.0	3.3	5.0	7.0	2.4	4.1	2.5	2.0	5.0	5.0	1.0	1.7	6.0	3.3	4.0	3.5	4.0
Montana		15.5	15.0	5.4	3.7	7.0	9.3	5.0	5.0	25.0	22.0	12.0	4.5	22.0	13.6	15.0	9.0	18.0
Wyoming		2.9	4.5	7.7	8.7	4.6	5.7	4.0	2.0	5.0	15.0	10.0	4.0	6.0	6.6	8.0	11.0	17.0
Colorado		6.0	10.0	11.4	7.8	5.1	8.1	8.0	3.0	8.0	20.0	7.0	1.0	12.0	8.4	8.0	20.0	33.0
New Mexico			0	0	0	10.9	14.2	5.0	7.0	2.5	8.0	28.0	35.0	5.0	15.0	14.4	10.0	60.0	50.0
Arizona			0	0	15.0	5.0	4.0	5.0	3.5	6.0	10.0	13.0	5.0	5.0	6.8	10.0	1.0	8.0
Utah		9.0	5.0	2.6	7.1	8.5	6.4	3.0	3.0	2.0	5.0	2.0	4.5	4.0	3.4	4.0	2.0	2.5
Nevada		5.0	0	5.9	5.0	13.3	5.8	4.5	4.0	3.0	5.0	1.0	5.0	12.6	4.9	8.0	1.0	2.0
Idaho	3.5	4.2	4.0	4.7	3.8	5.0	4.3	2.0	4.0	5.5	10.0	4.0	2.0	10.0	5.4	3.0	6.0	4.0
Washington	4.0	4.0	7.6	4.9	4.5	5.6	5.3	4.5	4.0	20.0	33.0	5.0	3.0	20.0	12.8	2.0	7.0	5.0
Oregon	2.5	3.0	6.0	3.9	1.6	5.0	3.9	2.0	2.5	2.0	11.0	2.0	1.5	3.0	3.4	1.0	4.0	3.0
California	35.0	16.3	5.2	8.0	8.0	30.0	13.5	5.0	5.0	20.0	20.0	15.0	10.0	16.0	13.0	28.0	8.7	8.0
United States	3.9	7.4	13.7	10.7	20.0	4.3	11.2	3.3	2.6	11.6	28.9	13.9	1.1	10.8	10.3	4.8	14.9	14.3

Division of Crop and Livestock Estimates.

[1] Based on percentages reported abandoned to May 1 by crop reporters.

TABLE 12.—*Wheat: Acreage and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Acreage.					Yield per acre.				
	Average, 1909–1913.	1920.	1921.	1922.	1923, preliminary	Average, 1909–1913.	1920.	1921.	1922.	1923, preliminary.
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Canada	9,945	18,232	23,261	23,423	22,673	19.8	14.4	12.9	17.8	20.7
United States	47,097	61,143	63,696	62,317	58,309	14.7	13.6	12.8	13.9	13.5
Mexico	[1] 2,176			1,419		[1] 11.0			9.6	
Total comparable 1909–1913	59,216			86,159						
Total comparable 1923	57,042	79,375	86,957	84,740	80,981					
EUROPE.										
United Kingdom:										
England and Wales	1,757	1,875	1,976	1,967	1,740	31.2	28.5	35.3	31.2	31.5
Scotland	57	54	65	65	59	39.9	38.5	39.5	38.8	40.1
Ireland	43	50	42	41		37.1	28.1	32.7	34.6	
Norway	12	40	41	25	25	25.6	25.0	23.7	25.7	22.0
Sweden	255	358	360	356	363	31.8	28.8	34.3	26.4	32.1
Denmark	[2] [3] 134	180	220	237	205	[2] 37.7	41.1	50.7	39.0	
Netherlands	138	152	180	150	153	36.1	39.4	47.6	41.1	43.6
Belgium	306	306	348	306	341	37.6	33.6	42.3	35.4	36.9
Luxemburg	27	27	29	23	25	22.8	16.7	21.4	7.5	20.9
France	[3] 16,159	12,586	13,300	13,072	13,656	19.7	18.8	24.3	18.6	21.3
Spain	9,547	10,254	10,386	10,309	10,488	13.7	13.5	14.0	12.2	15.0
Portugal	[4] 1,211	1,008	1,267	1,123	1,123	[2] 9.8	9.4	7.4	8.7	11.5
Italy	[3] 11,722	[3] 11,280	[3] 11,779	11,489	11,555	15.6	12.5	16.5	14.1	19.5
Switzerland	105	119	117	103	105	31.0	30.1	30.5	22.8	34.2
Germany	[3] 4,768	3,399	3,561	3,396	3,653	31.9	24.3	30.3	20.5	28.4
Austria	[3] 3,011	371	378	460	475	20.2	14.6	17.3	16.1	18.6
Czechoslovakia		1,573	1,556	1,527	1,509		16.8	24.9	22.0	24.2
Hungary	[3] 9,089	2,662	2,888	3,522	3,411	18.7	14.4	18.3	15.5	19.8
Yugoslavia	[4] [5] 944	3,560	3,699	3,723	3,408	[4] 16.6	12.1	14.0	11.9	17.2
Greece	[3] 868	1,076	968	890	1,071	[3] 14.5	10.4	11.3	10.7	12.6
Bulgaria	[3] 2,670	2,183	2,233	2,226	2,250	15.8	13.7	13.1	16.9	17.2
Rumania	[6] 6,377	4,998	6,149	6,548	6,632	17.0	12.3	12.8	14.1	15.5
Poland	[7] (1,619)	1,791	2,093	2,574	2,502	17.7	12.7	17.9	16.5	21.3
Lithuania	[7] (153)	162	179	194	202	15.6	13.6	15.9	16.9	15.7
Latvia	[7] (83)	39	46	70	64	17.5	10.0	17.0	13.7	19.9
Esthonia	[7] (21)	31	31	52		16.4		13.8	14.6	
Finland	8	22	20	22	31	17.1	12.1	14.0	13.5	15.2
Russia, including Ukraine and Northern Caucasia	[7] (57,805)			16,563		10.6				
Total comparable 1909–1913	123,746			81,027						
Total comparable 1923	71,178	69,175	68,853	64,371	65,253					
AFRICA.										
Morocco	[8] (1,709)	1,995	1,969	2,089	2,319		9.0	11.9	6.2	10.2
Algeria	3,562	3,138	2,782	3,103	3,157	10.0	2.7	12.5	5.9	11.3
Tunis	1,310	1,319	1,469	882	1,433	4.8	4.0	7.1	4.2	6.9
Egypt	1,314	1,190	1,458	1,519	1,537	28.6	26.6	25.4	24.1	26.5
Total comparable 1923	(7,886)	7,637	7,692	7,571	8,446					
ASIA.										
Cyprus		147	198	198			15.4			
India	29,226	29,949	28,784	28,267	30,885	12.0	12.6	9.7	13.0	12.0
Russia (Asiatic)	16,789			5,930		9.0				
Japanese Empire:										
Japan	1,179	1,398	1,294	1,229	1,198	21.3	23.1	22.6	22.5	23.1
Chosen	874	871	871			12.0	12.6	12.3		
Formosa	15	16	13			11.3	8.8	8.5		
Kwangtung	4	4	4			10.0	7.5	15.5		
Total comparable 1909–1913	47,785									
Total comparable 1923	30,469	31,297	27,048	29,496	32,083					
Total Northern Hemisphere, comparable 1909–1913	240,952									
Total Northern Hemisphere, comparable 1923	166,507	178,444	185,550	186,118	186,712					

TABLE 12.—*Wheat: Acreage and yield per acre in undermentioned countries*—Con.

SOUTHERN HEMISPHERE.

Country.	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24	Average 1909–1913.	1920–21	1922–22	1922–23	1923–24
Peru	[1] 192	222		230		[1] 14.9	12.9			
Chile	1,093	1,258	1,316	1,225	1,379	23.0	18.4	18.0	18.5	
Uruguay	[2] 791	700	812	663	979	[2] 8.2	11.1	13.2	5.5	
Argentina	16,051	15,014	13,927	16,081	17,216	9.2	10.4	13.7	11.8	14.4
Union of South Africa	[3] 803	875	339			[3] 7.5	8.4	10.0		
Australia	7,603	9,072	9,719	9,781	10,600	11.9	16.1	13.3	11.2	12.0
New Zealand	241	220	353	276	183	28.7	31.2	29.9	30.4	
Total comparable 1909–1913	26,884	27,371								
Total comparable 1923	25,689	26,264	26,125	28,086	29,757					
World total, comparable 1909–1913	270,316									
World total, comparable 1923	192,196	204,708	211,675	214,204	216,470					

Division of Statistical and Historical Research. Compiled from official sources and International Institute of Agriculture. Five-year averages are of the crops harvested during the calendar years 1909–1913 in the northern hemisphere, and during the crop seasons 1909–10 through 1913–14 in the southern hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Two-year average.
[2] One year only.
[3] Old boundaries.
[4] Three-year average.
[5] Territory of former Kingdom of Serbia.
[6] Includes Bessarabia.
[7] Preliminary estimate of former Russian territory within 1923 boundaries.
[8] Estimate of U. S. Dept. of Agriculture.
[9] Four-year average.

TABLE 13.—*Wheat: Production in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Production.							
	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	197,119	233,743	189,075	193,260	263,189	300,858	399,786	469,761
United States	690,108	636,655	921,438	967,979	833,027	814,966	867,598	785,741
Mexico	[1] 11,481			[2] 14,239	[2] 14,951		13,626	
Total comparable 1909–1913	898,708			1,175,478	1,111,167		1,281,010	
Total comparable 1923	887,227	870,398	1,110,513	1,161,239	1,096,216	1,115,763	1,267,384	1,255,851
EUROPE.								
United Kingdom:								
England and Wales	55,770	57,320	84,240	63,808	53,352	69,776	61,312	54,816
Scotland	2,273	2,432	3,216	3,064	2,080	2,558	2,520	[2] 2,368
Ireland	1,597	4,573	5,690	2,482	1,403	1,451	1,417	
Norway	307	430	1,087	1,071	999	972	643	549
Sweden	8,128	6,929	8,388	9,351	10,322	12,335	9,281	11,648
Denmark	[2] 5,117	[2] 4,286	[2] 6,280	[2] 5,923	7,390	11,145	9,249	
Netherlands	4,976	2,949	5,421	5,856	5,993	8,562	6,161	6,678
Belgium	14,894	5,014	4,919	10,565	10,274	14,495	10,615	12,590
Luxemburg	615	345	509	466	451	621	173	522
France	[3] 317,636	[4] 137,096	[4] 228,488	[4] 187,091	236,929	323,467	243,315	290,474
Spain	130,446	142,674	135,709	129,250	138,667	145,159	125,469	157,110
Portugal	[5] 11,850	7,429	9,584	8,178	10,376	9,418	9,762	12,964
Italy	[3] 183,334	[3] 139,999	[3] 183,284	[3] 169,768	[3] 141,337	[6] 194,671	161,641	224,899
Switzerland	3,314	3,081	5,273	3,991	3,596	3,574	2,348	3,593
Germany	[5] 152,118	[7] 81,791	[7] 85,865	[7] 79,701	82,583	107,798	89,725	103,604
Austria	60,941	5,993	5,159	5,114	5,434	6,530	7,422	8,826
Czechoslovakia					26,262	38,682	35,621	38,535
Hungary	109,643				38,204	52,715	54,729	67,677
Yugoslavia	[8,9] 14,746				43,011	51,809	44,472	61,993
Greece	[5] 12,620	11,505	13,722	9,808	11,188	11,179	9,559	13,506

[1] Four-year average.
[2] Commercial estimate.
[3] Old boundaries.
[4] Includes production in Alsace-Lorraine.
[5] One year only.
[6] Includes 1,235,000 bushels grown in Venezia Tridentina and Venezia Giulia.
[7] Excludes Alsace-Lorraine.
[8] Three-year average.
[9] Territory of former Kingdom of Serbia.

TABLE 13.—*Wheat: Production in undermentioned countries*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Production.							
	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
EUROPE—continued.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Bulgaria	[8] 42,174	29,067	23,203	29,775	30,003	29,239	37,704	38,783
Rumania	[10] 106,212	.....	21,460	66,020	61,309	78,563	92,008	102,514
Poland	[11] (28,629)	.....	.....	.....	22,741	37,409	42,378	53,351
Lithuania	[11] (2,857)	.....	.....	2,646	2,199	2,840	3,274	3,166
Latvia	[11] (1,455)	.....	.....	.....	389	784	958	1,273
Esthonia	[11] (344)	.....	.....	472	.....	427	761	.....
Finland	137	228	218	262	267	280	296	472
Russia, including Ukraine and Northern Caucasia	[11] (609,078)	.....	.....	.....	.....	.....	158,418	.....
Total comparable 1909–1913	1,943,086	.....	.....	.....	.....	.....	1,199,345	.....
Total comparable 1923.	1,326,950	.....	.....	.....	938,084	1,202,828	1,029,500	1,269,752
AFRICA.								
Morocco	[12] (17,000)	15,656	22,697	16,391	17,947	23,241	12,894	23,549
Algeria	35,161	28,979	49,236	21,003	8,433	34,906	18,233	35,611
Tunis	6,224	7,312	11,944	6,981	5,229	10,619	3,674	9,921
Egypt	33,662	29,834	32,140	30,137	31,710	37,010	36,648	40,654
Total comparable 1923.	92,047	81,781	116,017	74,512	63,319	105,776	71,449	109,735
ASIA.								
Cyprus	2,216	1,776	2,598	1,779	2,266	2,425	2,563	.....
India	351,841	382,144	370,421	280,261	377,888	250,357	366,987	359,204
Russia (Asiatic)	151,113	.....	.....	.....	.....	.....	45,359	.....
Japanese Empire:								
Japan	25,088	34,745	32,923	32,561	30,155	28,575	27,617	26,483
Chosen	6,898	9,153	9,897	8,553	10,984	10,705	9,922	9,204
Formosa	169	125	152	150	141	110	.....	.....
Kwantung	40	27	52	31	30	62	.....	.....
Total comparable 1909–1913	537,365	.....	.....	.....	.....	.....	.....	.....
Total comparable 1923.	383,827	426,042	413,250	321,375	419,027	289,637	403,526	404,951
Total Northern Hemisphere, comparable 1909–1913	3,471,206	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere, comparable 1923	2,600,051	.....	.....	.....	2,516,646	2,714,042	2,771,859	3,040,289

SOUTHERN HEMISPHERE.

Country.	Average, 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
Peru	[9] 2,866	2,621	2,282	2,357	3,001	2,800	.....	.....
Chile	20,062	23,120	20,280	19,920	23,190	23,636	23,815	.....
Uruguay	[1] 6,519	13,061	6,890	5,948	7,768	9,944	3,674	.....
Argentina	147,059	223,636	180,182	216,954	156,133	191,012	189,046	248,752
Union of South Africa [13]	[9] 6,034	9,790	7,979	5,129	7,323	8,419	6,696	.....
Australia	90,497	114,734	75,638	45,975	145,874	129,089	109,261	120,000
New Zealand	6,925	6,808	6,568	4,560	6,872	10,566	8,395	.....
Total comparable 1909–1913	279,962	393,770	299,819	300,843	350,161	375,465	.....	.....
Total comparable 1923.	237,556	338,370	255,820	262,929	302,007	320,101	298,307	368,752
World total, comparable 1909–1913	3,751,168	.....	.....	.....	.....	.....	.....	.....
World total, comparable 1923	2,927,607	.....	.....	.....	2,818,653	3,034,105	3,070,166	3,409,041

Division of Statistical and Historical Research. Compiled from official sources and International Institute. Parenthesis denote interpolated figures. Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Four-year average.
[8] Old boundaries.
[9] One year only.
[10] Includes Bessarabia.
[11] Preliminary estimate of former Russian territory within 1923 boundaries.
[12] Estimate U. S. Dept. of Agriculture.
[13] Exclusive of native locations which produced 359,000 bushels in 1918 and 290,000 bushels in 1921.

TABLE 14.—*Wheat: Area and production, prairie Provinces of Canada.*

Province.	Average 1909–1913.	1919	1920	1921	1922	1923	Per cent of Canadian total	
							Average 1909–1913.	1923
AREA.								
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*		
Manitoba	2,861	2,880	2,706	3,501	3,126	2,916	28.8	12.9
Saskatchewan	4,894	10,587	10,061	13,557	12,332	12,791	49.2	56.4
Alberta	1,201	4,283	4,074	5,123	5,766	5,959	12.1	26.3
Total	8,956	17,750	16,841	22,181	21,224	21,666	90.1	95.6
PRODUCTION.								
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*		
Manitoba	53,174	40,975	37,542	39,054	60,051	36,481	27.0	7.8
Saskatchewan	97,954	89,994	113,135	188,000	250,107	252,622	49.7	53.8
Alberta	24,783	34,575	83,461	53,044	64,976	157,467	12.5	33.5
Total	175,911	165,544	234,138	280,098	375,194	446,570	89.2	95.1

TABLE 15.—*Wheat: World production, 1894–1923.*

Year.	Production in countries reporting all years 1894–1923.	Production as reported.	Estimated world totals.	Selected countries.						
				Russia.[1]	Italy.	France.	India.	Argentina.	Australia.	Canada.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1894	1,730,605	2,357,727	2,515,616	477,199	121,595	344,180	271,375	61,361	27,850	.....
1895	1,574,080	1,276,811	2,440,445	309,660	117,762	339,595	261,203	46,407	18,270	.....
1896	1,628,012	2,328,627	2,468,629	412,038	145,233	340,268	200,866	31,599	20,880	.....
1897	1,561,792	2,112,010	2,233,593	340,170	86,919	242,227	200,229	53,388	28,241	.....
1898	2,113,124	2,807,948	3,012,350	459,289	137,345	304,906	269,113	104,981	41,428	.....
1899	1,929,387	2,643,177	2,773,061	454,145	137,912	365,449	255,273	101,654	39,978	.....
1900	1,787,154	2,478,739	2,633,405	422,994	147,341	325,542	200,000	74,752	48,353	.....
1901	2,017,031	2,701,163	2,900,167	427,782	181,512	310,913	264,825	56,379	38,562	.....
1902	1,983,191	2,913,632	3,117,721	607,370	150,648	327,898	227,380	103,758	12,378	.....
1903	2,136,988	3,111,340	3,272,810	621,459	203,191	362,968	297,601	129,671	74,150	.....
1904	2,017,180	3,006,388	3,144,436	666,752	184,819	299,639	359,936	150,743	54,536	.....
1905	2,110,003	3,130,443	3,309,345	636,287	176,735	324,838	283,076	134,930	68,521	.....
1906	2,279,413	3,253,930	3,493,206	543,481	194,372	328,697	319,950	155,991	66,421	.....
1907	2,158,965	3,012,480	3,189,191	576,570	195,475	381,223	317,061	192,487	44,656	.....
1908	2,000,064	3,077,785	3,171,263	627,998	167,917	310,684	228,689	150,162	62,891	112,434
1909	2,216,491	3,551,056	3,625,128	846,166	190,378	359,174	285,197	131,010	90,414	166,744
1910	2,091,735	3,477,180	3,575,891	836,242	153,403	252,963	359,647	145,981	95,112	132,049
1911	2,232,327	3,522,157	3,570,309	563,485	192,395	322,339	375,629	166,190	71,636	230,924
1912	2,326,048	3,782,788	3,857,488	801,497	165,720	334,333	370,515	187,391	91,981	224,159
1913	2,334,362	4,011,754	4,087,654	1,027,662	214,772	319,370	368,219	104,723	103,344	231,717
1914	2,267,111	3,588,988	3,625,388	[2] 827,756	169,582	282,689	312,368	169,174	24,892	161,280
1915	2,579,924	4,267,983	4,289,583	[2] 826,784	170,541	222,776	376,992	169,019	179,066	393,543
1916	1,968,736	2,515,591	3,288,291	.....	176,530	204,908	323,045	80,115	152,420	262,781
1917	1,965,624	2,426,838	3,133,838	.....	139,999	[3] 137,096	382,144	223,636	114,734	233,743
1918	2,337,111	2,774,877	3,147,677	.....	183,294	[3] 228,688	370,421	180,182	75,638	139,074
1919	2,190,147	2,668,701	2,997,051	.....	169,769	[3] 187,091	280,261	216,954	45,975	193,260
1920	2,202,538	2,892,988	3,033,438	.....	141,337	[3] 236,929	377,888	156,133	145,874	263,189
1921	2,296,730	3,105,089	3,258,089	.....	[3] 194,071	[3] 323,467	250,357	191,012	129,089	300,858
1922	2,242,821	3,345,362	3,348,099	.....	[3] 161,641	[3] 243,315	366,987	189,046	109,261	399,786
1923	2,426,115	3,409,041	3,691,761	.....	[3] 224,839	[3] 290,474	369,264	248,752	120,000	469,761

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Includes all Russian territory reporting for years named. Further information of the territory included is given in Notes 3 and 6 on Table 16.
[2] Excludes Poland.
[3] New boundaries.

TABLE 16.—*Wheat: Production in selected foreign countries, 1899–1923.*

Year.	Algeria.	Austria.	Belgium.	Bulgaria.	Chile.	Denmark.	Egypt.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1899	22,281	50,206	11,100	21,629	----------	4,056	----------
1900	33,593	40,929	13,788	----------	----------	4,139	----------
1901	32,244	44,027	14,143	----------	----------	979	----------
1902	33,896	49,655	14,521	----------	16,614	4,594	----------
1903	34,034	46,196	12,350	35,551	17,948	4,462	----------
1904	25,484	53,734	13,817	42,242	12,089	4,282	----------
1905	25,579	54,531	12,401	34,949	12,157	4,089	----------
1906	34,652	58,264	12,983	39,108	----------	4,163	----------
1907	31,260	53,257	15,895	23,545	18,915	4,345	----------
1908	29,730	62,120	13,393	36,485	17,671	4,321	----------
1909	35,722	58,467	14,602	33,071	19,682	3,837	31,826
1910	35,874	57,589	14,005	42,247	18,184	4,328	32,580
1911	39,375	56,886	15,745	48,295	22,408	5,678	35,399
1912	27,172	60,638	15,346	44,750	23,575	5,048	30,738
1913	37,661	59,625	14,769	43,801	16,403	6,695	37,769
Average 1909–1913	35,161	60,841	14,894	42,174	20,062	5,117	33,662
1914	33,241	38,024	13,972	[1] 23,206	19,000	5,788	32,850
1915	33,849	32,391	7,916	[1] 35,527	20,214	7,982	29,144
1916	29,151	27,811	6,497	[1] 29,690	22,498	6,044	36,543
1917	28,979	[1] 5,993	5,614	[1] 29,087	23,120	4,296	29,884
1918	44,236	[1] 5,159	4,919	[1] 23,208	20,280	6,399	32,149
1919	21,003	[1] 5,114	10,565	[1] 29,775	19,920	5,923	30,157
1920	8,433	[1] 5,434	10,274	[1] 30,003	23,190	[1] 7,390	31,710
Average 1914–1920	29,127	----------	8,450	28,626	21,175	----------	33,194
1921	34,906	[1] 6,530	14,495	[1] 29,239	23,636	[1] 11,145	37,010
1922	18,232	[1] 7,422	10,615	[1] 37,704	23,815	[1] 9,249	36,648
1923	35,611	[1] 8,826	12,590	[1] 38,783	----------	----------	40,654

Year.	Germany.	Hungarian Kingdom.[2]	Japan.	Netherlands.	New Zealand.	Norway.	Russia in Europe.[3]
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1899	141,368	150,298	21,198	5,096	8,582	----------	393,623
1900	141,137	152,235	21,785	4,670	6,527	326	395,766
1901	91,816	134,628	22,398	4,231	4,047	319	401,534
1902	142,314	182,890	20,243	5,105	7,458	265	560,614
1903	130,625	176,621	9,690	4,258	7,892	307	551,730
1904	129,802	146,918	19,754	4,423	9,124	212	622,257
1905	135,946	179,590	18,436	5,978	6,799	329	565,278
1906	144,753	207,756	20,252	4,942	5,605	308	450,965
1907	127,342	130,677	22,795	5,225	5,567	290	437,774
1908	138,440	165,424	22,587	5,121	8,773	330	489,162
1909	137,999	125,014	23,966	4,158	8,661	313	711,478
1910	141,894	151,135	23,556	4,441	8,296	293	699,412
1911	149,411	199,077	25,647	5,511	7,361	270	447,939
1912	160,224	194,642	26,514	5,904	5,189	231	623,762
1913	171,675	167,349	26,757	5,144	5,232	224	837,797
Average 1909–1913	152,118	169,643	25,088	4,976	6,925	306	663,898
1914	145,944	137,777	22,975	5,779	6,664	269	[4] 573,284
1915	141,676	137,647	26,778	7,909	7,106	284	[4] 655,366
1916	113,393	----------	30,137	4,786	5,651	316	----------
1917	[5] 81,791	----------	24,745	3,949	6,908	430	----------
1918	[5] 85,865	----------	29,923	5,491	6,893	1,067	----------
1919	[5] 79,701	----------	32,551	5,558	4,560	1,671	----------
1920	[1] 82,589	[1] 36,294	26,155	5,996	6,872	999	----------
Average 1914–1920	----------	----------	30,039	5,555	6,233	637	----------
1921	[1] 107,796	[1] 52,715	28,575	8,562	10,565	972	----------
1922	[1] 99,735	[1] 54,729	27,617	6,161	8,395	643	----------
1923	[1] 108,894	[1] 67,677	26,483	6,628	----------	549	----------

[1] New boundaries.
[2] Includes Hungary proper and Croatia Slavonia.
[3] Includes 50 governments in Europe, 10 governments of Poland, and 1 government and 2 provinces of Northern Caucasia.
[4] Excludes Poland.
[5] Excludes production in Alsace Lorraine.

TABLE 16.—*Wheat: Production in selected foreign countries, 1899–1923*—Contd.

Year.	Russia in Asia.[6]	Russian Empire.[7]	Spain.	Sweden.	Switzerland.	United Kingdom.	Uruguay.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1899	60, 522	454, 145	97, 707	4, 733	----------	67, 261	6, 891
1900	27, 228	422, 994	100, 702	5, 510	----------	54, 322	3, 664
1901	28, 248	427, 782	136, 904	4, 473	----------	53, 928	7, 604
1902	46, 756	607, 370	133, 532	4, 657	----------	58, 278	5, 240
1903	69, 729	631, 459	128, 978	5, 526	----------	48, 819	----------
1904	44, 495	686, 752	95, 505	5, 249	----------	37, 920	7, 565
1905	68, 011	636, 287	92, 070	5, 526	----------	60, 333	4, 605
1906	92, 816	543, 481	140, 655	6, 696	----------	60, 618	6, 867
1907	132, 706	570, 570	100, 339	6, 182	----------	56, 531	7, 430
1908	135, 536	627, 698	119, 968	7, 049	3, 491	53, 928	8, 595
1909	134, 668	846, 166	144, 103	7, 414	3, 568	62, 197	----------
1910	136, 860	836, 242	167, 449	7, 696	2, 756	56, 592	5, 972
1911	116, 446	563, 485	148, 495	8, 106	3, 524	64, 312	8, 757
1912	177, 735	801, 497	109, 783	7, 797	3, 178	57, 400	5, 461
1913	189, 865	1, 027, 662	112, 401	9, 502	3, 546	56, 696	5, 897
Average 1909–1913	151, 113	815, 010	130, 446	8, 103	3, 314	59, 639	----------
1914	254, 372	[8] 837, 756	116, 089	8, 906	3, 278	62, 432	3, 596
1915	173, 479	[8] 826, 784	139, 298	9, 660	3, 957	73, 912	9, 867
1916	----------	----------	152, 329	9, 035	4, 082	59, 776	5, 390
1917	----------	----------	142, 674	6, 929	3, 031	64, 326	13, 069
1918	----------	----------	185, 709	8, 889	5, 273	93, 144	0, 890
1919	----------	----------	139, 259	9, 351	3, 891	69, 320	5, 948
1920	----------	----------	138, 605	10, 322	3, 586	56, 832	7, 768
Average 1914–1920	----------	----------	136, 279	9, 013	3, 871	68, 534	7, 503
1921	----------	----------	145, 150	12, 335	3, 574	73, 792	9, 944
1922	----------	----------	125, 409	9, 381	2, 348	65, 248	3, 674
1923	----------	----------	167, 110	11, 648	3, 593	----------	----------

Division of Statistical and Historical Research. Compiled from official sources and International Institute of Agriculture. For each year is shown the production in the Northern Hemisphere during the calendar year and the succeeding harvest in the Southern Hemisphere.

[5] Excludes Poland.

[6] Asiatic Russia during 1899 to 1905 included statistics from 4 governments of Siberia, 4 provinces in Central Asia, and the small government of the Black Sea in Transcaucasia. In 1906 no statistics were available for Akmolinsk, one of the 4 provinces of Central Asia which had been previously reported but to the other governments and provinces reporting were added statistics for Ural, 3 provinces of Turkestan, and 10 governments and provinces of Transcaucasia. Subsequently Asiatic Russia included 8 governments and provinces of Siberia; 4 provinces of the Steppes, 4 provinces of Turkestan, and Ural in Central Asia; and 11 governments and provinces of Transcaucasia. The territory supplying statistical data remained the same after 1906 although in the annual publication of the Division of Rural Economics and Agricultural Statistics of the Ministry of Agriculture for 1915 (published in 1917) the Central Statistical Committee departed from its usual grouping of the provinces of the Steppes and of Turkestan.

[7] Includes estimates for all governments and provinces of Russia for which statistics are available.

TABLE 17.—*Wheat: Monthly marketings by farmers, 1917–1923.*

Year beginning July 1.	Percentage of year's receipts as reported by about 3,500 mills and elevators.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	7.4	12.4	19.3	18.0	13.7	7.6	4.7	3.9	3.7	4.1	3.1	2.1	100.0
1918–19	17.6	19.9	18.0	13.8	8.7	7.3	4.6	3.1	2.0	1.6	1.9	1.5	100.0
1919–20	17.1	23.2	15.6	11.1	7.5	5.7	4.2	3.0	2.9	3.1	3.4	3.2	100.0
1920–21	12.1	14.3	15.9	10.6	6.9	6.2	5.5	5.3	4.9	5.0	6.4	6.9	100.0
1921–22	19.1	18.2	16.4	10.6	6.8	5.4	4.4	4.9	3.9	3.2	3.5	3.6	100.0
1922–23	14.8	17.3	14.2	12.0	8.6	7.4	5.5	5.1	4.3	3.7	3.4	3.7	100.0

Division of Crop and Livestock Estimates.

TABLE 18.—*Wheat: Farm stocks, shipments, and quality, 1895–1923.*

Year beginning July 1.	Stocks in mills and elevators July 1.[1]	Old stocks on farms July 1.[2]	Crop.			Total supplies (except visible).	Stocks on farms Mar. 1, following.[2]	Stocks in mills and elevators Mar. 1, following.[1]	Shipped out of county where grown.[3]
			Quantity.	Weight per bushel.[3]	Quality.[4]				
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*Pounds.*	*Per cent.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1895–96	.....	29,007	569,456	58.3	85.7	598,463	151,395	.....	334,557
1896–97	.....	48,524	544,193	57.6	84.4	592,717	113,139	.....	284,315
1897–98	.....	29,239	610,254	57.1	.....	639,493	138,068	.....	308,298
1898–99	.....	20,196	772,163	57.7	87.9	792,359	224,575	.....	453,675
1899–1900	.....	71,861	636,051	56.9	83.7	707,912	183,286	.....	351,062
1900–1	.....	58,363	602,708	56.3	87.8	661,071	147,674	.....	322,962
1901–2	.....	35,140	788,638	57.5	88.8	823,778	181,673	.....	389,275
1902–3	.....	54,016	724,808	57.6	.....	779,424	174,664	.....	420,279
1903–4	.....	45,262	663,923	57.3	.....	709,185	136,811	.....	386,589
1904–5	.....	37,422	596,911	57.4	.....	634,333	111,072	.....	327,960
1905–6	.....	25,545	726,819	57.5	.....	752,364	163,866	.....	428,000
1906–7	.....	47,393	756,775	58.3	.....	804,168	211,910	.....	447,589
1907–8	.....	55,438	637,981	58.2	89.9	693,419	148,392	.....	377,999
1908–9	.....	33,188	644,656	58.3	89.4	677,844	137,628	.....	392,441
1909–10	.....	14,171	700,434	57.9	90.4	714,605	163,371	.....	428,262
1910–11	.....	36,725	635,121	58.5	93.1	671,846	162,705	98,597	352,906
1911–12	.....	34,071	621,338	57.8	88.3	655,409	122,041	95,710	348,739
1912–13	.....	23,876	730,267	58.3	90.0	754,143	156,471	118,400	449,881
1913–14	.....	35,515	763,380	58.7	93.2	798,895	151,795	93,627	411,733
1914–15	.....	32,236	891,017	58.0	89.7	923,253	152,903	85,955	541,198
1915–16	.....	28,972	1,025,801	57.9	88.4	1,054,773	244,448	155,027	633,380
1916–17	.....	74,731	636,318	57.1	87.0	711,049	100,650	89,173	361,068
1917–18	.....	15,611	636,655	58.5	92.4	652,266	107,745	66,138	325,500
1918–19	.....	8,063	921,438	58.8	93.1	929,501	128,703	107,037	541,666
1919–20	19,672	19,261	967,979	56.3	82.1	1,006,912	169,904	123,233	591,552
1920–21	37,304	49,546	833,027	57.4	88.9	919,877	217,037	87,075	491,035
1921–22	27,167	56,707	814,905	57.0	85.8	898,779	134,253	75,071	502,470
1922–23	28,756	32,359	867,598	57.7	87.6	928,713	155,474	92,538	584,089
1923–24[6]	36,458	35,894	785,741	57.4	87.5	858,093	133,871	90,396	498,215

Division of Crop and Livestock Estimates.

[1] Based on percentage of crop as estimated by about 3,500 mill and elevator operators.
[2] Based on percentage of crop on farms as estimated by crop reporters.
[3] Based on estimates of crop reporters on Nov. 1.
[4] Percentage of "a high medium grade" as estimated by crop reporters at time of harvest.
[5] Based on percentage shipped out as estimated by crop reporters.
[6] Preliminary.

TABLE 19.—*Wheat: Supply and distribution and per capita disappearance in the United States.*

Item.	Year beginning July 1.					
	Average 1899–1908.	Average 1909–1913.	Average 1914–1920.	1921–22	1922–23	1923–24
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Supply:						
Stocks on farms July 1	43,608	28,841	32,631	56,707	32,359	35,034
Stocks in country mills and elevators July 1	27,000	29,000	24,854	26,767	28,756	36,458
Commercial visible (Bradstreet's) July 1	32,194	24,168	19,290	9,966	20,342	29,403
Stocks of flour (in terms of wheat) July 1	7,114	7,960	8,251	6,808	7,461	10,049
New crop	677,927	690,108	844,605	814,905	867,598	785,741
Imports (flour included) July 1 to June 30	746	1,808	19,746	17,252	19,945	[1] 19,945
Total supply	788,589	781,885	949,377	932,405	976,461	917,230
Distribution:						
Exports July 1 to June 30 (flour included)	152,623	104,967	255,011	279,407	221,923	.....
Estimated seed requirements	68,995	72,383	88,600	93,247	89,336	.....
Carryover on June 30—						
On farms	38,709	32,276	36,127	32,359	35,034	.....
In country mills and elevators	25,300	31,000	24,678	28,756	36,458	.....
Commercial visible (Bradstreet's)	28,476	25,041	18,265	20,342	29,403	.....
Flour (in terms of wheat)	6,990	8,555	7,972	7,461	10,049	.....
Total distribution	321,093	274,222	430,653	461,572	422,803	.....
Disappearance for food and feed	468,403	507,663	518,724	470,833	553,658	.....
Population	82,614	94,378	102,880	106,541	109,956	111,371
Per capita disappearance, food and feed, bushels	5.67	5.38	5.04	4.34	5.04	.....

Division of Statistical and Historical Research. [1] The same amount as in 1922, supplied to balance.

TABLE 20.—*Wheat: Receipts and shipments, 11 primary markets, 1909–1922.*

Year beginning July 1.	Chicago.		Milwaukee.		Minneapolis.		Duluth.		St. Louis.		Toledo.	
	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	27,542	20,586	8,482	2,757	92,833	20,546	54,667	50,280	22,064	19,622	4,426	1,474
1910–11	27,400	17,259	10,062	7,875	90,774	20,866	28,628	25,352	20,127	20,062	4,122	1,556
1911–12	35,563	30,003	8,497	3,411	96,889	52,745	30,596	25,571	15,336	12,790	6,930	4,644
1912–13	44,168	43,325	10,337	5,685	126,161	32,761	83,530	75,435	38,792	27,179	4,734	2,475
1913–14	50,884	47,905	6,372	3,442	103,679	28,994	62,799	64,709	27,244	22,242	5,802	3,704
Average 1909–1913	37,111	31,816	8,750	4,634	102,067	31,182	52,048	48,287	24,713	20,383	5,203	2,771
1914–15	107,708	91,112	9,550	7,010	112,716	39,510	62,268	59,867	34,196	26,913	7,089	4,168
1915–16	85,819	61,531	7,337	3,505	163,202	54,932	95,674	82,540	42,226	31,046	9,965	5,571
1916–17	56,708	47,342	10,595	8,099	119,701	39,689	30,978	30,789	41,024	33,080	5,719	2,590
1917–18	13,735	8,118	13,138	1,336	82,229	19,072	16,602	13,646	17,023	13,234	4,583	1,379
1918–19	54,533	67,122	15,535	12,576	117,787	38,174	88,383	86,932	42,547	25,621	5,940	1,348
1919–20	74,167	57,215	7,006	3,674	119,419	37,468	18,317	13,664	45,266	32,956	8,046	2,285
1920–21	30,615	27,886	4,424	2,556	118,579	50,724	45,083	43,272	45,316	31,479	5,052	1,400
Average 1914–1920	60,469	51,475	9,655	5,536	119,090	39,938	51,044	48,101	38,228	27,761	6,628	2,677
1921–22	51,548	45,803	9,676	7,464	105,343	43,287	49,226	49,843	39,009	29,404	6,753	3,622
1922–23	51,660	44,203	3,681	3,145	133,830	48,648	65,541	55,036	40,605	33,561	10,472	5,524
1922.												
July	8,780	4,794	141	183	5,417	2,481	2,266	2,028	5,013	3,464	1,076	122
August	16,574	18,629	502	281	10,993	4,614	3,004	1,482	7,060	6,335	975	222
September	4,743	5,078	491	296	18,865	6,808	16,225	9,089	3,461	2,539	785	114
October	4,492	2,640	419	203	17,002	4,820	9,838	9,458	3,873	2,910	1,470	582
November	3,203	2,623	416	206	13,605	4,942	7,451	8,626	4,279	3,673	1,420	402
December	2,890	1,735	227	220	17,663	4,271	6,314	6,979	3,174	2,341	2,417	804
1923.												
January	2,844	1,611	463	420	15,971	5,018	3,929	672	3,469	2,712	281	470
February	2,151	1,576	277	290	6,292	2,632	3,492	68	2,301	1,772	283	296
March	1,629	1,341	213	203	9,508	3,846	2,206	229	2,104	1,874	302	612
April	1,956	1,197	201	325	7,373	3,748	3,495	209	2,024	1,994	316	722
May	1,320	1,132	193	259	5,135	2,950	3,044	8,391	2,216	2,187	732	813
June	1,078	1,847	188	199	5,947	2,518	4,277	6,307	1,631	1,760	415	365

Year beginning July 1.	Detroit.		Kansas City.		Peoria.		Omaha.		Indianapolis.		Total.	
	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	1,821	167	34,092	22,057	1,304	1,002	(1)	(1)	(1)	(1)	247,251	138,491
1910–11	2,003	105	40,537	26,709	1,225	1,074	(1)	(1)	(1)	(1)	224,878	120,878
1911–12	2,861	401	23,627	16,970	1,518	1,106	11,030	9,690	176	173	233,028	157,504
1912–13	977	715	48,374	33,415	1,951	1,616	20,193	13,133	1,560	462	380,777	236,201
1913–14	1,442	842	32,152	23,730	1,629	1,424	16,453	11,958	1,898	812	310,354	209,552
Average 1909–1913	1,821	446	35,756	24,576	1,525	1,244	15,892	11,594	1,211	482	279,257	172,585
1914–15	2,763	2,012	77,745	65,650	3,786	3,527	17,767	11,639	3,028	916	438,616	312,324
1915–16	2,809	1,580	70,442	51,632	4,503	5,336	25,613	16,215	4,851	1,967	512,441	315,855
1916–17	2,724	1,062	68,720	62,878	2,870	2,468	31,194	29,221	2,890	929	373,123	264,167
1917–18	1,597	260	22,226	8,255	2,195	1,422	8,565	6,096	2,990	1,192	184,883	74,010
1918–19	1,608	306	54,106	35,696	3,405	3,371	19,730	15,115	6,477	2,080	410,051	288,340
1919–20	1,688	289	92,215	55,673	3,663	4,285	26,585	21,992	7,471	1,340	403,843	230,841
1920–21	1,656	149	87,148	64,637	2,199	2,011	28,192	24,372	4,491	458	372,755	248,944
Average 1914–1920	2,121	811	67,515	49,203	2,232	3,203	22,521	17,807	4,600	1,269	385,102	247,783
1921–22	1,578	234	90,574	69,085	2,564	1,709	25,310	25,559	4,056	890	365,637	276,850
1922–23	1,797	80	77,684	52,464	4,355	4,070	25,356	19,505	5,185	909	420,166	267,145
1922.												
July	159	14	11,089	5,156	995	571	3,099	1,595	1,414	95	39,449	21,401
August	226	9	11,605	10,686	1,303	1,338	4,413	3,512	693	243	57,348	47,351
September	120	7	8,280	5,419	400	556	2,720	1,901	401	83	56,441	32,490
October	188	10	6,834	4,432	383	379	2,455	1,682	397	143	47,351	27,209
November	189	10	6,546	4,411	305	264	2,566	1,535	310	99	40,290	26,851
December	158	2	8,965	4,818	266	197	2,441	2,021	288	35	44,743	23,423
1923.												
January	163	6	7,010	4,475	222	246	1,960	1,592	480	77	36,792	17,299
February	97	4	3,980	2,458	187	149	1,465	1,090	249	50	20,774	10,385
March	160	2	3,486	3,074	114	146	1,207	1,128	233	26	21,312	12,479
April	121	4	3,906	2,529	91	92	1,365	1,490	209	31	21,056	12,341
May	123	11	2,983	3,052	59	42	806	1,187	271	18	16,882	20,042
June	93	1	3,050	1,954	90	90	769	824	240	9	17,729	15,874

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the Annual Reports of the Chicago Board of Trade.

(1) No report.

TABLE 21.—*Wheat: Estimated requirements, surplus and deficiency, by States, 1923–24.*

Geographic division and State	Population Jan. 1, 1924	Estimated per capita consumption.		Estimated requirements for food and feed.		Estimated seed requirements. (2)	Total requirements.		Dec. 1, 1923 production estimate.	Surplus (+) or deficiency (−) for export and increased feeding, 1923–24.	
		1911 [1]	Average 1918–1922. (2)	1911 per capita basis.	Average 1918–1922 per capita basis.		1911 food and feed basis plus seed.	Average, 1918–1922 food and feed basis plus seed.		1911 per capita basis.	Average, 1918–1922 per capita basis.
		Bu.	Bu.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
New England:											
Maine	778,579	4.7	4.2	3,659	3,270	20	3,679	3,290	156	− 3,523	− 3,134
New Hampshire	448,237	5.0	4.5	2,261	2,017		2,261	2,017		− 2,261	− 2,017
Vermont	357,357	5.4	4.8	1,930	1,726	16	1,946	1,731	84	− 1,862	− 1,647
Massachusetts	4,052,572	5.0	4.5	20,263	18,237		20,263	18,237		−20,263	−18,237
Rhode Island	629,854	4.3	3.8	2,709	2,393		2,709	2,393		− 2,709	− 2,393
Connecticut	1,490,176	4.5	4.0	6,706	5,961		6,706	5,961		− 6,706	− 5,961
Middle Atlantic:											
New York	10,999,153	5.4	4.8	58,980	52,304	845	59,754	53,260	8,159	−51,595	−45,050
New Jersey	3,446,899	5.0	4.5	17,054	15,349	126	17,180	15,475	1,490	−15,700	−13,995
Pennsylvania	9,154,557	5.8	5.2	53,097	47,604	2,381	55,478	49,985	24,338	−31,140	−25,647
E. North Central:											
Ohio	6,168,227	6.2	5.5	38,243	33,925	4,213	42,456	38,138	42,783	+ 327	+ 4,645
Indiana	3,024,953	5.7	5.1	17,242	15,427	2,770	20,012	18,197	34,248	+14,236	+16,051
Illinois	6,984,129	5.6	5.0	38,271	34,171	3,814	42,085	37,985	62,506	+20,421	+24,521
Michigan	4,022,021	5.0	4.5	20,110	18,060	1,648	21,758	19,747	15,576	− 5,182	− 3,171
Wisconsin	2,754,032	5.2	4.6	14,326	12,673	237	14,563	12,910	1,990	−12,573	−10,920
W. North Central:											
Minnesota	2,515,434	7.2	6.4	18,111	16,092	2,469	20,580	18,561	20,785	+ 205	+ 2,217
Iowa	2,477,874	5.3	4.7	13,133	11,646	1,057	14,190	12,703	14,352	+ 162	+ 1,649
Missouri	3,449,673	5.2	4.6	17,928	15,868	3,107	21,045	18,975	37,947	+16,902	+18,972
North Dakota	675,637	7.2	6.4	4,865	4,324	10,737	15,602	15,061	58,660	+43,058	+43,599
South Dakota	636,244	6.5	5.8	4,279	3,818	3,820	8,099	7,638	26,906	+18,807	+19,268
Nebraska	1,329,286	5.8	5.2	7,768	6,964	3,928	11,696	10,892	31,388	+19,692	+20,496
Kansas	1,801,522	5.8	5.2	10,449	9,368	11,712	22,161	21,080	83,804	+61,643	+62,724
South Atlantic:											
Delaware	231,524	5.0	4.5	1,158	1,042	208	1,366	1,250	1,908	+ 542	+ 658
Maryland	1,513,242	5.0	4.5	7,566	6,810	816	8,382	7,625	10,426	+ 2,045	+ 2,801
District of Columbia	444,017	5.3	4.7	2,353	2,087		2,353	2,087		− 2,353	− 2,087
Virginia	2,411,192	4.5	4.0	10,850	9,645	1,084	11,934	10,729	11,145	− 789	+ 416
West Virginia	1,563,650	5.7	5.1	8,913	7,975	323	9,236	8,298	2,964	− 6,272	− 5,334
North Carolina	2,704,407	4.5	4.0	12,170	10,818	756	12,926	11,574	6,038	− 6,888	− 5,536
South Carolina	1,755,077	4.3	3.8	7,538	6,662	238	7,776	6,900	1,925	− 5,851	− 4,975
Georgia	3,013,961	4.0	3.6	12,050	10,850	251	12,307	11,101	1,739	−10,568	− 9,369
Florida	1,037,403	4.5	4.0	4,758	4,230		4,758	4,230		− 4,758	− 4,230
E. South Central:											
Kentucky	2,468,843	4.5	4.0	11,110	9,875	747	11,857	10,622	7,688	− 4,169	− 2,934
Tennessee	2,400,902	4.1	3.7	9,844	8,884	454	10,298	9,338	4,508	− 5,790	− 4,830
Alabama	2,434,731	4.0	3.6	9,739	8,765	56	9,795	8,821	200	− 9,595	− 8,621
Mississippi	1,816,021	4.0	3.6	7,264	6,538	10	7,274	6,548	60	− 7,214	− 6,488
W. South Central:											
Arkansas	1,825,441	4.0	3.6	7,362	6,572	99	7,461	6,671	770	− 6,691	− 5,901
Louisiana	1,887,066	4.5	4.0	8,357	7,428		8,357	7,428		− 8,357	− 7,428
Oklahoma	2,181,194	6.0	5.4	13,087	11,778	3,756	16,843	15,534	30,390	+13,457	+20,766
Texas	4,979,117	5.4	4.8	26,857	23,900	1,543	28,430	25,443	16,370	−12,060	− 9,073
Mountain:											
Montana	620,101	5.8	5.2	3,597	3,225	4,683	8,280	7,834	52,436	+44,280	+44,652
Idaho	475,651	6.5	5.8	3,092	2,759	1,222	4,314	3,981	30,115	+25,791	+26,124
Wyoming	214,359	5.3	5.6	1,350	1,200	276	1,626	1,476	2,785	+ 1,159	+ 1,309
Colorado	997,561	6.0	5.4	5,985	5,387	2,530	8,515	7,917	18,000	+ 9,485	+10,083
New Mexico	373,967	7.9	7.1	2,954	2,655	122	3,076	2,777	1,380	− 1,776	− 1,477
Arizona	387,645	7.2	6.4	2,791	2,481	57	2,848	2,538	1,082	− 1,756	− 1,446
Utah	490,729	6.1	5.4	2,992	2,696	453	3,445	3,029	6,580	+ 3,201	+ 3,587
Nevada	78,544	6.1	5.4	479	424	32	511	456	507	− 4	+ 51
Pacific:											
Washington	1,445,054	6.0	5.4	8,670	7,803	2,937	11,607	10,740	61,743	+50,066	+50,933
Oregon	823,967	6.1	5.4	5,027	4,479	1,702	6,729	6,179	26,897	+20,048	+20,629
California	3,589,194	5.6	5.0	21,611	19,286	1,220	22,831	20,506	10,157	− 6,674	− 4,359
United States	111,371,056	5.31	4.74	590,779	527,483	78,440	669,219	605,923	785,741	+116,520	+179,818

Division of Statistical and Historical Research.

[1] The consumption figures in this column were obtained by a survey in 1911 by the Bureau of Crop Estimates.

[2] Years beginning July 1. The figures in this column shown for the individual States were computed on the ratio between the United States consumption in 1911 (5.31 bushels) and the per capita disappearance during the five years 1918–19 to 1922–23 (4.74 bushels). The average disappearance for the latter period was 89.27 per cent of the 1911 disappearance.

[3] The seed requirements are based on the spring acreage of 1923 and the 1923 fall sowing according to the "Intention to plant" release of August 15, 1923. The rate of seeding in each State was applied to the acreage in that State.

TABLE 22.—*Wheat: Visible supply in the United States, 1909–1923.*[1]

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb..	Mar.	Apr..	May.	June.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	14,201	13,689	14,268	17,358	25,718	36,471	38,759	31,489	28,926	22,116	23,457	22,453
1910–11	20,174	18,352	17,688	17,089	21,257	24,529	25,668	22,852	22,988	22,484	20,980	17,492
1911–12	12,852	16,789	19,126	27,995	36,252	43,265	45,908	43,118	41,111	41,886	37,936	27,940
1912–13	24,203	23,992	36,209	47,961	61,694	72,880	81,229	81,289	79,668	77,654	75,027	71,990
1913–14	62,316	59,389	56,851	60,598	71,386	78,691	80,295	79,866	75,580	71,486	66,593	59,394
1914–15	54,657	60,001	66,949	71,413	80,027	85,150	88,561	83,376	78,761	74,308	62,196	52,229
1915–16	44,561	38,517	35,439	40,789	52,989	62,993	69,843	66,736	64,089	60,322	55,519	50,340
1916–17	47,199	46,754	45,574	50,116	58,686	58,914	54,651	49,591	43,797	38,612	34,412	28,997
1917–18	17,589	17,314	14,817	21,194	26,974	34,845	39,816	36,699	34,088	30,233	23,209	22,587
1918–19	14,701	9,985	7,147	11,283	15,476	24,115	26,893	28,984	29,477	29,997	28,144	26,185
1919–1920	33,587	36,019	34,768	42,185	51,001	55,776	58,291	54,368	54,084	54,204	52,472	44,704
1920–1	46,442	47,594	50,294	58,409	60,982	62,179	61,468	59,767	57,234	54,749	46,668	36,982
1921–2	30,793	30,369	27,798	35,394	41,192	52,396	52,995	57,929	54,098	49,615	38,328	29,694
1922–3	19,760	21,972	20,968	25,636	32,260	45,682	49,735	48,447	47,807	41,958	33,456	24,529
1923–4	15,970	13,414	13,268	19,469	22,216	30,140	38,204	39,769	35,599	31,727	30,357	29,602
1924–5	14,055	13,093	12,814	17,576	26,486	36,860	40,619	38,979	35,565	32,327	28,529	20,694
1925–6	14,274	13,354	12,149	17,896	29,895	36,948	42,951	48,537	47,289	46,468	41,221	30,811
1926–7	25,822	29,984	30,054	33,362	37,972	41,557	44,727	44,877	44,894	47,208	51,999	49,729
1927–8	46,529	48,319	49,459	48,759	48,688	43,477	48,492	46,711	42,998	38,798	30,318	22,818
1928–9	13,892	10,174	16,297	24,281	48,053	48,973	51,759	44,875	38,213	36,142	29,625	19,786
1929–30	9,756	7,009	9,168	19,442	27,063	31,686	27,738	26,463	25,515	29,613	26,228	18,647
1930–31	12,034	12,375	26,467	34,969	40,129	42,969	44,232	43,251	39,868	34,152	27,005	26,838
1931–32	23,863	41,216	48,057	52,709	65,199	69,948	70,480	60,425	57,080	51,942	41,722	30,847
1932–33	23,350	18,841	19,598	31,668	41,712	55,400	65,342	64,913	62,786	58,936	47,157	37,940
1933–34	30,163	37,677	44,580	52,051	55,105	58,868	63,743	60,806	57,021	51,862	43,378	29,775
Av. 1909–1913	19,833	23,564	29,569	38,168	45,827	51,658	54,319	51,172	48,654	45,013	37,219	28,899
1914–15	13,249	29,744	31,534	51,586	65,923	74,686	72,861	60,289	49,686	39,323	26,439	19,022
1915–16	7,949	6,582	7,767	15,990	22,639	48,797	67,311	66,459	63,553	57,387	48,864	44,462
1916–17	42,628	40,890	54,069	57,418	60,709	62,026	59,534	48,721	44,916	39,317	25,756	28,896
1917–18	14,299	5,819	5,058	7,789	14,998	21,031	18,986	13,989	9,739	5,381	2,194	1,146
1918–19	785	17,155	48,821	90,623	122,604	121,561	119,711	120,613	118,219	92,546	49,502	28,702
1919–20	8,651	26,903	56,928	84,999	96,352	89,742	75,363	66,389	50,375	44,787	42,784	37,104
1920–21	19,799	17,487	20,758	27,391	35,500	43,127	43,068	34,212	28,159	18,468	13,448	8,354
Av. 1914–1920	15,328	19,797	32,204	47,945	59,804	65,767	65,254	59,498	52,164	42,458	29,855	23,246
1921–22	8,061	24,658	38,741	52,798	54,333	47,763	49,468	42,280	40,055	35,897	31,281	26,342
1922–23	17,773	19,667	27,349	32,354	32,278	33,429	37,673	46,776	47,597	45,785	44,521	32,981
1923–24	26,312	36,096	56,541	63,932	69,189	71,808	------	------	------	------	------	------

Compiled from the annual reports of the Chicago Board of Trade to December, 1922. January, 1923, to date from the Chicago Daily Trade Bulletin. Reported on the Saturday nearest the first of the month.

[1] From 1909 to November 29, 1909 stocks at the principal points in Canada were included. The Chicago Board of Trade "visible" includes grain stored east of the Rockies only. It covers 22 interior and seaboard points of large accumulation and grain in transit by canals and lakes.

[2] From the Chicago Daily Trade Bulletin.

1909–10	12,771	12,611	15,514	28,589	37,820	41,688	37,949	36,638	34,461	37,558	33,771	24,795
1910–11	16,396	17,053	38,352	48,437	58,420	57,002	59,369	56,357	50,566	42,097	34,656	32,769
1911–12	29,639	46,389	54,581	61,500	75,792	81,215	81,501	76,748	66,982	59,828	48,022	35,994
1912–13	27,615	23,795	26,862	40,909	52,494	67,575	77,471	76,131	73,895	69,000	53,508	43,697
1913–14	34,420	43,196	51,980	61,485	66,663	72,061	74,854	71,284	66,191	59,931	49,327	33,662
Av. 1909–1913	24,168	28,609	37,458	48,388	58,883	63,908	66,229	62,228	58,419	53,802	43,857	34,183
1914–15	17,136	30,456	39,964	61,784	76,282	86,332	85,957	81,776	58,923	46,287	31,407	22,871
1915–16	10,734	9,361	12,679	22,498	33,336	60,678	80,150	77,834	73,748	66,691	57,658	52,512
1916–17	50,515	49,591	65,754	70,420	75,455	76,191	73,584	59,477	54,160	48,525	32,821	34,375
1917–18	19,901	11,692	10,315	13,072	22,855	29,633	28,470	20,436	15,484	10,190	6,656	4,379
1918–19	2,465	26,462	54,230	98,155	131,882	131,594	129,697	140,607	127,207	100,505	55,247	27,025
1919–20	10,873	25,965	65,479	93,580	107,732	101,055	85,112	69,494	58,632	51,909	47,795	44,233
1920–21	23,404	20,226	24,195	32,169	41,596	48,273	47,797	38,475	31,945	22,229	17,584	10,598
Av. 1914–1920	19,290	24,822	38,946	58,236	69,877	76,290	75,589	69,800	66,014	49,476	35,591	27,729
1921–22	9,965	28,727	47,159	62,788	62,767	53,507	55,778	48,902	45,714	42,287	36,644	31,497
1922–23	20,342	23,077	32,479	38,023	37,979	37,764	42,856	52,288	53,569	51,803	49,521	37,208
1923–24	29,498	40,526	62,922	72,936	79,054	82,209	------	------	------	------	------	------

Compiled from Bradstreet's. Includes grain stored at approximately fifty interior and seaboard points of accumulation and grain in transit by canals and lakes; also Pacific Coast stocks at Portland, Tacoma and Seattle. Reported on the Saturday nearest the first of the month.

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TABLE 23.—*Wheat, flour included: "World" visible supply 1st of each month, 1892–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.
	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.
1892–93	132,000	122,968	145,738	166,331	196,271	231,575	237,420	234,223	229,383	221,606	215,560	205,039
1893–94	183,744	178,073	183,845	195,713	220,734	235,389	232,065	232,978	222,391	216,545	206,914	195,763
1894–95	173,012	174,492	189,549	205,151	220,788	218,857	227,975	223,496	212,446	198,047	186,523	171,169
1895–96	160,331	158,043	152,268	176,638	209,858	218,787	224,708	202,832	191,887	180,630	161,111	147,563
1896–97	136,456	124,393	126,487	152,972	190,761	202,330	184,618	173,498	155,505	139,011	121,490	107,338
1897–98	88,740	77,900	87,073	119,635	139,313	156,516	157,009	152,042	140,571	132,038	111,229	109,845
1898–99	86,774	70,103	66,511	83,090	106,886	135,852	147,197	145,629	151,124	144,928	139,909	136,952
1899–1900	140,300	134,975	142,577	162,877	191,191	203,478	200,306	189,356	181,607	184,141	175,766	157,709
1900–1	149,841	150,193	164,629	188,200	200,715	203,237	211,064	201,161	204,353	197,013	185,436	160,498
1901–2	142,417	138,201	146,030	165,149	177,395	210,024	208,598	210,494	199,700	183,328	158,732	133,173
1902–3	105,827	94,973	103,484	135,540	174,035	185,729	175,482	173,678	170,558	155,562	135,126	120,373
1903–4	103,531	93,266	103,837	140,934	164,389	174,085	178,274	169,718	163,361	157,453	154,537	142,706
1904–5	123,327	111,152	124,977	156,869	185,161	199,881	189,216	179,478	181,576	172,938	155,655	135,811
1905–6	126,610	115,534	122,394	150,015	170,679	201,855	205,909	203,769	208,704	197,495	172,840	151,119
1906–7	133,702	131,789	146,473	182,924	207,959	219,048	220,457	208,662	214,710	207,620	209,048	190,351
1907–8	164,849	155,351	161,038	163,814	181,549	181,342	181,938	180,004	193,337	189,089	162,620	128,899
1908–9	99,331	97,821	108,430	149,789	176,246	182,040	181,147	177,651	180,377	170,585	136,844	116,695
1909–10	90,470	79,383	93,783	139,286	176,969	184,089	177,881	184,193	201,836	202,430	179,003	156,841
1910–11	118,942	111,018	159,399	214,526	237,558	237,607	234,057	236,025	235,509	226,883	193,983	172,843
1911–12	151,664	164,547	172,913	191,474	227,789	240,490	243,899	229,099	190,189	234,157	214,721	187,416
1912–13	152,266	129,007	132,385	165,377	213,026	239,736	245,099	251,665	273,077	207,502	224,642	138,773
1913–14	158,376	148,710	164,764	162,378	228,792	242,587	252,632	261,961	259,062	243,976	159,524	129,219
Av., 1909–1913	134,344	126,532	144,649	174,608	216,827	229,022	230,614	232,589	231,935	222,990	194,375	157,018
1914–15 [1]	130,878	144,884	147,713	204,743	234,041	242,226	242,915	218,723	216,730	203,805	184,692	152,977
1915–16	118,046	93,401	93,972	127,207	200,565	246,005	291,145	319,341	281,758	356,797	326,411	314,096
1916–17	280,461	249,909	249,539	251,204	276,715	292,596	315,890	308,490	288,093	269,031	291,164	236,985
1917–18	213,968	240,841	232,676	235,874	264,823	289,107	271,008	255,882	248,101	321,675	303,351	272,498
1918–19	252,890	267,097	329,364	383,689	490,099	489,052	442,922	474,609	453,996	414,270	363,423	319,115
1919–20	287,278	306,600	345,636	380,935	378,392	360,972	322,739	280,324	280,305	248,870	239,908	238,791
1920–21	192,310	175,147	155,463	183,042	214,569	221,177	226,287	251,169	286,839	270,615	215,590	199,992
Av., 1914–1920	210,833	211,126	222,052	252,385	294,172	298,734	301,842	301,220	293,689	297,866	274,034	247,779
1921–22	163,062	164,377	206,788	221,740	254,683	247,365	233,412	212,190	272,921	260,248	223,483	190,133
1922–23	141,068	124,321	126,607	176,578	244,359	268,336	301,138	341,339	341,245	310,173	273,062	206,912
1923–24	171,996	161,278	161,916	214,511	277,713	313,226	-------	-------	-------	-------	-------	-------

Division of Statistical and Historical Research. Compiled from Bartels Red Book and Chicago Daily Trade Bulletin. Includes "afloat" for United Kingdom, for Continent, and for orders; "in store" in United Kingdom, France, Germany, Belgium, Holland, Russia, Canada, and United States, 1892, through December, 1900. Argentina added in January, 1901; Australia in March, 1905. Beginning with March, 1916, France, Germany, Belgium, Holland, and Russia omitted.

[1] Australia not included February, 1914, to January, 1915.

TABLE 24.—*Wheat crop classified by grades,[1] crops of 1921–1923.*

State.	SPRING WHEAT.																	
	No. 1.			No. 2.			No. 3.			No. 4.			No. 5.			Below No. 5.		
	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923
	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct	P.ct
Minnesota	5.6	49.4	14.7	12.3	24.2	22.1	30.9	14.5	28.0	28.9	7.7	18.5	17.0	3.1	11.8	5.3	1.1	4.9
North Dakota	14.0	53.5	10.5	22.2	26.4	18.9	29.7	12.9	29.4	20.5	4.8	22.7	10.0	1.9	12.1	3.6	.5	6.4
South Dakota	15.7	51.8	6.2	22.7	25.2	17.7	30.5	15.3	30.9	17.0	5.6	23.9	9.9	1.7	14.9	4.2	.4	6.4
Nebraska	11.2	10.1	4.0	29.6	37.8	14.4	26.9	37.7	19.0	17.4	9.9	26.8	9.4	3.0	18.7	5.5	1.5	17.1
Montana	74.7	84.0	63.2	18.2	12.1	20.6	5.6	3.1	12.1	1.4	.5	3.8	.1	.3	.3	----	----	----
Colorado	38.3	35.9	25.5	37.3	33.2	27.5	13.8	22.0	18.0	7.2	6.1	10.7	1.5	1.4	8.2	1.9	1.4	10.1
Utah	33.6	31.0	27.2	40.1	44.9	48.2	17.1	18.3	17.3	5.6	4.3	5.9	3.4	1.1	1.0	.2	.4	.4
Idaho	37.3	35.5	37.6	41.5	49.7	43.1	13.5	10.9	14.3	3.8	2.0	2.3	2.7	.9	1.0	1.2	1.0	1.7
Washington	22.0	7.2	39.2	44.2	29.6	44.2	25.9	30.7	12.4	5.9	20.0	3.3	1.2	9.2	.4	.8	3.3	.5
Oregon	50.0	27.6	60.5	37.6	38.5	26.9	9.6	23.2	9.3	2.3	6.2	2.1	.5	2.5	.5	----	2.0	.6
United States	24.1	52.1	18.8	25.6	26.4	20.4	24.2	13.5	24.1	15.1	5.3	16.3	7.9	2.0	8.8	3.1	.7	5.6

Division of Crop and Livestock Estimates.

[1] Based on percentage estimates of about 3,500 mill and elevator operators.

TABLE 24.—*Wheat crop classified by grades,*[1] *crops of 1921–1923*—Continued.

WINTER WHEAT.

State.	No. 1.			No. 2.			No. 3.			No. 4.			No. 5.			Below No. 5.		
	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923
	P.ct	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*
New York	13.6	17.3	20.0	48.4	53.1	56.0	25.4	23.2	22.0	7.6	3.7	2.0	2.7	1.6	0	2.3	1.1	0
Pennsylvania	12.3	12.5	14.0	48.6	49.5	55.0	27.5	26.4	21.0	8.1	7.7	7.0	2.3	2.3	2.0	1.2	1.6	1.0
Maryland	12.2	2.5	9.0	39.8	31.5	68.0	25.5	25.9	17.0	14.2	17.5	4.0	5.5	9.2	1.0	2.8	13.4	1.0
Virginia	16.2	7.7	32.0	49.8	44.7	49.0	19.3	31.4	15.0	9.8	11.2	2.0	3.3	3.7	1.0	1.6	1.3	1.0
North Carolina	----	11.8	21.0	----	50.3	51.0	----	26.0	20.0	----	6.2	6.0	----	.5	1.0	----	5.2	1.0
Ohio	6.9	16.4	27.0	41.0	44.1	58.0	33.2	25.9	12.0	13.1	9.2	2.0	4.2	3.1	1.0	1.6	1.3	0
Indiana	5.7	7.9	15.0	30.9	50.2	60.0	35.7	28.3	17.0	14.4	9.6	5.0	4.9	2.6	2.0	2.4	1.4	1.0
Illinois	8.3	10.5	17.0	43.9	43.2	55.0	29.4	27.8	19.0	12.9	13.0	6.0	3.3	4.1	2.0	2.0	1.4	1.0
Michigan	12.6	22.7	26.0	49.3	54.1	59.0	26.3	15.5	11.0	8.2	4.9	3.0	2.5	1.5	1.0	1.1	1.3	1.0
Iowa	9.8	11.6	9.0	44.6	60.7	61.0	30.6	21.5	24.0	10.6	4.4	4.0	2.4	1.2	2.0	2.0	.6	0
Missouri	3.8	6.2	15.0	24.2	28.2	43.0	35.0	33.7	26.0	22.8	19.0	10.0	9.2	8.2	4.0	5.0	4.7	2.0
Nebraska	23.4	13.1	6.0	47.0	45.7	31.0	21.8	25.4	34.0	5.9	10.9	19.0	1.6	3.8	7.0	.3	1.1	3.0
Kansas	24.2	6.4	11.0	39.9	29.0	30.0	21.5	34.7	30.0	9.8	19.0	18.0	3.3	7.8	8.0	1.3	3.1	3.0
Kentucky	4.3	3.0	8.0	35.2	24.2	56.0	35.6	30.5	23.0	16.9	23.2	9.0	6.3	11.4	2.0	1.7	7.7	2.0
Tennessee	8.2	4.2	12.0	39.4	27.4	47.0	32.6	35.3	23.0	13.5	19.2	12.0	4.2	8.4	5.0	2.1	5.5	1.0
Texas	13.7	18.6	28.0	27.5	17.7	41.0	35.7	20.4	19.0	14.7	14.9	7.0	6.3	13.3	3.0	2.1	15.1	2.0
Oklahoma	9.2	10.0	54.0	34.7	21.0	21.0	34.2	27.3	12.0	14.0	23.3	7.0	5.7	11.5	4.0	2.2	6.9	2.0
Montana	68.1	79.1	81.0	20.6	15.6	15.0	8.7	4.1	3.0	1.6	.8	1.0	.6	.4	0	.5	0	0
Colorado	----	26.1	21.0	----	40.0	40.0	----	21.4	23.0	----	7.1	8.0	----	3.6	3.0	----	1.8	5.0
Idaho	29.9	35.2	46.0	50.4	47.7	35.0	13.1	13.3	15.0	2.4	1.5	3.0	.6	1.2	1.0	3.6	1.1	0
Washington	36.9	8.9	41.0	45.4	44.5	41.0	14.3	31.1	15.0	3.0	11.3	2.0	0	2.7	1.0	.4	1.5	0
Oregon	49.4	26.0	47.0	34.0	48.0	37.0	11.2	18.0	13.0	4.4	6.0	2.0	.9	1.0	1.0	.1	1.0	0
California	56.7	55.2	37.0	26.3	24.6	45.0	11.8	12.8	12.0	2.4	4.4	4.0	2.1	1.9	1.0	.7	1.1	1.0
United States	19.7	13.3	20.8	39.9	38.0	42.8	25.1	27.6	21.7	10.2	13.1	9.2	3.5	5.2	3.7	1.6	2.8	1.8

Division of Crop and Livestock Estimates.

[1] Based on percentage estimates of about 3,500 mill and elevator operators.

TABLE 25.—*Dockage assessed on wheat at Minnesota markets, 1899–1923.*

Year beginning Sept. 1.	Number of cars on which dockage is assessed.	Amount of wheat in cars.[1]	Amount of dockage assessed.[2]	Percentage of dockage assessed.	Year beginning Sept. 1.	Number of cars on which dockage is assessed.	Amount of wheat in cars.[1]	Amount of dockage assessed.[2]	Percentage of dockage assessed.
	Cars.	*Bushels.*	*Bushels.*	*Per cent.*		*Cars.*	*Bushels.*	*Bushels.*	*Per cent.*
1899–1900	163,824	212,971,200	4,365,909.4	2.0	1911–12	103,399	134,418,700	4,054,964.1	3.0
1900–1	111,742	145,264,600	3,558,982.7	2.4	1912–13	182,800	237,640,000	6,495,493.3	2.7
1901–2	----	----	----	----	1913–14	137,483	178,727,900	6,553,356.3	3.7
1902–3	129,154	167,900,200	3,190,103.8	1.9	1914–15	126,897	164,966,100	5,911,285.2	3.6
1903–4	111,015	144,319,500	3,175,029.0	2.2	1915–16	219,165	284,914,500	10,826,751.0	3.8
1904–5	109,160	141,908,000	2,743,554.6	1.9	1916–17	94,942	123,424,600	5,986,003.1	4.8
1905–6	140,546	182,709,800	5,298,584.2	2.9	1917–18	88,830	115,479,000	4,041,765.0	3.5
1906–7	134,298	174,587,400	5,848,677.9	3.3	1918–19	157,452	204,687,600	4,776,044.0	2.3
1907–8	95,917	124,692,100	4,218,749.4	3.4	1919–20	85,657	111,354,100	5,010,934.5	4.5
1908–9	117,909	153,281,700	3,525,479.1	2.3	1920–21	127,976	166,368,800	7,486,596.0	4.5
1909–10	150,699	195,908,700	5,354,837.8	2.7	1921–22	107,452	139,687,600	5,343,050.7	3.8
1910–11	91,995	119,593,500	2,272,276.5	1.9	1922–23	138,068	180,268,400	7,589,299.6	4.2

Division of Statistical and Historical Research. Compiled from Minnesota State Grain Inspection Department data.

[1] Based on 1,300 bushels to the car.

[2] Based on 60 pounds to bushel.

TABLE 26.—*Wheat: Classification of cars graded by licensed inspectors, all inspection points.*

Year beginning July 1.	Total of all classes and subclasses under each grade, annual inspections 1917–1922.													
	Receipts.							Shipments.						
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	Sample.	Total.	No. 1	No. 2.	No. 3.	No. 4.	No. 5.	Sample.	Total.
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917–18	60,843	91,143	59,421	23,435	15,766	15,402	266,015	17,926	26,589	17,883	6,503	4,299	3,625	76,745
1918–19	300,284	208,265	63,827	26,660	10,017	13,247	622,980	246,377	87,178	14,108	4,498	1,519	3,181	357,082
1919–20	45,427	192,023	187,533	101,279	49,423	28,709	604,464	16,602	143,770	98,744	18,402	6,335	4,848	276,699
1920–21	153,089	241,339	124,184	48,703	38,367	49,675	656,357	44,837	269,752	44,407	9,899	6,020	7,724	384,639
1921–22	91,844	269,250	147,537	51,763	27,690	59,290	647,374	21,414	255,512	34,242	7,894	4,753	11,662	335,468
1922–23	128,990	210,527	131,868	48,466	15,626	38,998	583,005	28,387	226,008	37,610	6,421	2,823	6,495	307,744
Class.	Total inspections, by grade and class, July 1, 1922, to June 30, 1923.													
Hard Red Spring	85,187	21,708	11,584	5,380	2,276	1,324	127,454	20,087	14,753	2,189	941	265	288	38,523
Durum	9,776	28,983	9,213	4,646	1,290	1,016	54,924	2,076	20,660	1,334	710	293	162	31,375
Hard Red Winter	21,302	94,155	66,412	20,271	6,282	19,087	227,509	4,189	103,627	21,673	2,513	1,021	3,077	135,900
Soft Red Winter	2,779	23,965	22,224	9,621	2,962	12,231	73,782	608	28,511	8,592	1,413	698	1,484	41,307
White Wheat	5,695	10,869	6,416	1,786	406	353	25,516	319	11,319	516	4	2	2	12,162
Mixed	12,281	31,861	15,509	6,762	2,410	4,987	74,810	1,128	46,938	3,175	1,140	804	1,532	54,717
Year beginning July 1.	Total of all classes and subclasses under each grade, annual inspections 1917–1922.													
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1917–18	22.9	34.3	22.3	8.8	5.9	5.8	100	23.4	34.6	23.2	8.5	5.6	4.7	100
1918–19	48.2	32.7	10.2	4.3	1.6	2.0	100	69.1	24.4	4.0	1.3	0.4	0.9	100
1919–20	7.5	31.8	31.0	16.7	8.2	4.8	100	6.0	52.0	31.3	6.7	2.3	1.7	100
1920–21	23.3	36.8	18.9	7.6	5.8	7.6	100	11.7	69.9	11.5	2.6	2.3	2.0	100
1921–22	14.2	41.6	22.8	8.0	4.3	9.1	100	6.4	76.2	10.2	2.3	1.4	4.5	100
1922–23	22.7	36.1	22.5	8.3	2.7	6.7	100	9.2	73.5	12.2	2.1	0.9	2.1	100
Class.	Total inspections, by grade and class, July 1, 1922, to June 30, 1923.													
Hard Red Spring	66.8	17.0	9.1	4.2	1.8	1.1	100	52.5	38.6	5.7	1.7	0.7	0.8	100
Durum	17.8	52.8	16.8	8.5	2.3	1.8	100	6.6	65.0	4.9	2.3	0.7	0.5	100
Hard Red Winter	9.4	41.4	29.2	8.9	2.7	8.4	100	3.1	76.2	15.9	1.8	0.7	2.3	100
Soft Red Winter	3.8	31.6	30.5	13.2	4.1	16.8	100	1.5	69.2	20.7	3.4	1.7	3.5	100
White Wheat	22.3	42.6	25.1	7.0	1.6	1.4	100	2.6	93.1	4.3				100
Mixed	17.8	42.6	20.7	9.0	3.2	6.7	100	2.3	84.4	6.5	2.4	1.2	3.2	100

Grain Division

TABLE 27.—*Wheat: Exports from United States, 1910–1924.*

FLOUR INCLUDED.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	4,699	8,835	12,472	12,899	12,996	9,126	4,973	3,527	3,737	5,330	4,977	2,864	87,364
1910–11	3,130	4,948	6,186	7,450	6,753	8,044	7,000	5,129	5,618	5,244	5,853	3,960	69,315
1911–12	6,275	10,177	10,709	8,898	6,874	7,980	5,814	5,033	5,852	4,923	4,388	3,146	79,062
1912–13	2,996	8,916	16,987	20,745	16,155	14,490	13,445	9,194	8,799	10,820	11,178	9,148	142,867
1913–14	12,968	28,396	17,510	13,113	9,616	10,628	9,709	7,556	6,954	7,040	10,914	11,247	145,593
Average 1910–1914	6,000	12,243	12,777	12,805	10,419	10,053	8,188	6,088	6,192	6,671	7,462	6,073	104,964
1914–15	30,173	27,617	31,434	25,682	25,856	37,124	32,626	31,490	28,146	29,224	20,288	13,446	332,466
1915–16	11,586	21,612	26,239	28,768	19,284	30,415	26,686	21,068	24,071	22,494	26,502	12,223	246,119
1916–17	10,535	14,921	18,162	16,130	18,004	18,609	24,604	18,561	12,439	18,504	16,219	21,357	208,576
1917–18	8,499	9,738	7,180	11,522	10,616	15,308	12,448	10,494	12,269	12,364	10,914	11,375	132,889
1918–19	11,156	19,494	28,346	24,532	21,991	33,540	22,102	15,849	20,315	31,180	26,304	32,682	287,495
1919–20	16,324	20,312	25,028	20,077	23,396	15,428	12,274	10,581	16,899	13,720	25,899	21,752	222,562
1920–21	34,656	32,670	34,996	42,634	36,980	30,187	27,105	25,077	20,766	24,800	31,024	32,192	366,108
Average 1915–1921	17,553	20,910	24,339	23,661	21,504	24,384	21,551	18,007	19,281	21,798	21,690	20,714	255,402
1921–22	30,413	66,963	38,950	25,211	19,563	15,014	14,982	10,991	14,371	10,244	14,267	18,300	279,169
1922–23 [1]	19,124	38,964	31,839	25,077	17,579	16,428	12,519	12,197	10,725	10,195	14,396	12,881	221,906
1923–24 [1]	12,822	19,930	22,465	18,652	12,147	12,966	12,201	10,019					

FLOUR NOT INCLUDED.

1909–10	2,783	6,157	7,156	8,566	8,427	3,727	1,428	1,166	1,204	2,953	2,487	626	46,680
1910–11	862	2,131	2,229	3,261	2,505	3,409	2,802	1,347	1,883	1,315	1,371	617	23,731
1911–12	3,260	6,253	5,088	3,350	2,299	3,084	2,043	1,244	1,352	1,386	603	199	30,161
1912–13	535	5,800	13,153	15,255	10,584	9,490	8,441	4,357	4,569	6,590	7,159	5,661	91,594
1913–14	9,404	24,346	11,971	7,434	3,851	5,727	4,985	3,947	3,457	3,066	6,810	7,396	92,303
Average 1910–1914	3,369	8,937	7,919	7,573	5,533	5,087	3,940	2,413	2,493	3,062	3,686	2,900	56,912
1914–15	20,357	24,341	25,867	19,578	19,182	28,876	24,008	24,432	20,541	22,759	14,227	9,396	279,563
1915–16	7,956	16,838	24,520	18,040	13,600	12,624	13,401	15,054	17,294	16,506	14,571	5,905	173,275
1916–17	6,355	11,080	13,108	11,985	14,279	14,473	18,906	10,384	7,885	14,233	11,359	15,804	140,831
1917–18	5,059	5,170	2,613	5,415	4,878	4,491	1,914	1,048	1,688	1,024	353	467	34,129
1918–19	225	15,120	26,848	21,319	16,087	25,064	9,943	5,992	19,208	17,338	14,028	16,390	178,582
1919–20	5,834	12,941	17,000	12,687	15,116	9,520	8,490	4,938	6,939	4,176	10,864	12,846	122,431
1920–21	23,888	27,694	30,771	35,803	26,035	25,903	21,345	18,469	14,601	17,641	25,932	25,235	293,267
Average 1915–1921	10,803	16,166	19,689	17,975	15,882	17,282	14,008	11,474	11,308	13,282	13,048	12,292	173,619
1921–22	24,842	58,537	30,842	18,206	13,955	10,451	10,038	5,577	7,045	4,856	9,306	14,006	206,321
1922–23 [1]	14,979	33,703	25,987	18,282	10,577	9,676	7,296	5,991	4,291	4,943	9,973	9,252	154,959
1923–24 [1]	8,843	14,198	15,408	9,290	4,148	4,941							

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.

[1] Preliminary.

TABLE 28.—*Wheat: Production and exports; inspection for export, by classes, July 1, 1920–December 31, 1923; and production, 1920–1923.*

Class.	July 1, 1920, to June 30, 1921.		July 1, 1921, to June 30, 1922.		July 1, 1922, to June 30, 1923.		July 1, 1920, to June 30, 1923. [1]		July 1, 1923, to Dec. 31, 1923.	
	Estimated production. [2]	Exports, gross.	Estimated production. [2]	Exports, gross.	Estimated production. [2]	Exports, gross.	Estimated production. [2]	Exports, gross.	Estimated production. [2]	Exports, six months.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Reported inspections:										
Hard red spring	153,878	10,081	140,163	20,145	180,975	8,718	158,339	12,982	136,973	765
Durum	41,954	4,872	53,394	8,607	87,028	12,271	60,767	8,613	46,618	2,400
Hard red winter	294,536	132,701	276,080	78,477	266,222	51,654	278,929	87,610	219,785	15,568
Soft red winter	247,102	34,281	237,818	18,908	243,438	20,846	242,786	24,708	264,946	8,329
White	95,557	1,183	107,571	758	89,940	13,602	97,689	5,182	117,419	10,054
Mixed [3]		68,615		18,903		25,047		37,842		3,154
Type sample [4]		26,546		42,894				28,746		
Not classified [5]		87,798		96,476		80,755		89,352		56,725
Total	833,027	366,077	814,965	279,407	867,598	221,923	838,510	289,135	785,741	90,005

Division of Statistical and Historical Research.

[1] Three-year average.

[2] Based on estimate of percentage classification by States as reported in 1921, Division Crop and Live-stock Estimates.

[3] From July 1, 1921, to June 30, 1923, 70 per cent of the exports of mixed wheat is estimated as durum. Mixed wheat exports in 1920–21 were largely soft and hard winter wheats shipped through Gulf ports; 20,000,000 bushels of durum were estimated mixed with spring wheat in 1920–21.

[4] Prior to July 1, 1922, practically all wheat exported from Pacific coast was shipped on basis of "Portland (Oreg.) Chamber of Commerce type sample." Since July 1, 1922, all wheat exported from Pacific coast has been inspected on the basis of Federal grades and classes.

[5] Exports of wheat other than reported as "Federal inspected" and flour in terms of wheat.

TABLE 29.—*Wheat, including flour: Exports from the United States by customs districts, 1921–1923.*

District.	Year ending June 30.								
	Wheat.			Wheat flour.			Wheat, including flour.		
	1920–21	1921–22	1922–23	1920–21	1921–22	1922–23	1920–21	1921–22	1922–23
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canadian and Lake ports	12,347	31,359	32,371	16	84	45	12,419	31,737	32,571
Atlantic coast	87,636	45,294	53,790	10,353	7,782	6,985	134,225	80,314	84,998
Gulf coast	163,096	86,091	48,239	2,717	3,757	3,439	175,324	102,999	63,716
Mexican border	519	1,111	726	141	81	92	1,152	1,474	1,140
Pacific coast	29,670	44,466	19,825	2,953	4,098	4,372	42,857	62,883	39,498
Total	293,268	208,321	154,951	16,180	15,797	14,883	365,977	279,407	221,923

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

TABLE 30.—*Wheat, flour not included: Imports into the United States from Canada, 1913–1923.*

Year beginning July 1—	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1913–14	4	(1)	(2)	231	104	127	885	175	235	13	73	43	1,890
1914–15	35	69	7	3	102	5	14	47	35	13	19	21	270
1915–16	60	441	348	1,755	796	470	386	218	194	258	504	243	5,673
1916–17	128	394	943	1,507	2,606	838	805	1,337	2,993	3,125	5,459	3,574	23,709
1917–18	1,954	1,398	840	1,712	5,674	3,732	7,339	27	218	71	958	761	24,684
1918–19	508	24	27	55	176	168	39	42	44	281	1,474	1,893	4,731
1919–20	118	28	143	564	404	309	753	534	526	50	410	124	3,963
1920–21	36	170	1,842	9,800	9,522	11,185	4,504	4,403	2,671	4,504	1,902	89	50,688
1921–22	713	239	81	878	1,184	2,052	3,120	199	2,673	483	1,231	1,610	14,463
1922–23	3,070	1,152	782	2,566	3,176	2,616	252	211	345	2,812	946	122	18,050
1923–24	1,836	596	1,234	2,832	5,264								

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.

[1] 37 bushels. [2] 297 bushels.

TABLE 31.—*Wheat, Canadian: Shipments through the United States in transit for export, 1908–1923.*

Year ending June 30.	July.	August.	September.	October.	November.	December.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1907–8	2,008,348	2,374,791	1,354,539	746,356	596,582	2,323,690
1908–9	196,948	375,220	293,334	1,411,966	4,976,070	5,661,697
1909–10	149,079	47,072	128,461	2,271,026	3,936,849	6,815,713
1910–11	405,777	369,879	169,202	2,454,251	4,103,756	2,853,058
1911–12	1,245,123	1,556,059	1,843,632	2,850,293	6,817,884	5,741,686
1912–13	4,798,849	3,267,057	1,103,581	822,445	5,791,397	6,947,147
1913–14	3,022,204	1,607,918	576,187	8,394,434	12,742,195	10,300,988
1914–15	1,970,116	693,347	847,479	2,587,898	2,604,700	3,649,473
1915–16	1,786,025	1,196,921	2,094,792	14,156,283	24,039,780	22,034,619
1916–17	17,214,550	13,420,235	7,912,271	3,382,021	6,814,761	4,790,585
1917–18	4,937,699	3,238,134	45,082	747,333	3,772,431	5,479,905
1918–19	206,896			351,714	61,783	3,541,148
1919–20					2,532,429	2,023,286
1920–21				398,482	7,384,934	11,984,856
1921–22	185,320	472,937	1,261,641	8,552,416	10,745,169	14,060,184
1922–23	4,686,990	2,994,596	2,299,062	3,911,564	17,618,609	17,895,393

TABLE 31.—*Wheat, Canadian: Shipments through the United States in transit for export, 1908–1923*—Continued.

Year ending June 30.	January.	February.	March.	April.	May.	June.	Total.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1907–8	3, 388, 139	2, 292, 873	1, 432, 209	630, 401	1, 434, 751	1, 180, 066	19, 762, 745
1908–9	3, 569, 982	1, 923, 038	1, 849, 464	1, 058, 552	1, 469, 758	701, 459	23, 487, 488
1909–10	4, 114, 828	2, 260, 732	1, 539, 623	1, 407, 327	3, 367, 419	1, 091, 342	27, 129, 471
1910–11	1, 380, 745	1, 847, 176	2, 932, 295	1, 790, 047	3, 280, 249	2, 425, 193	24, 192, 228
1911–12	4, 962, 375	3, 766, 567	3, 606, 272	5, 092, 380	7, 645, 257	10, 290, 325	55, 417, 853
1912–13	9, 224, 642	5, 134, 431	3, 660, 099	3, 243, 337	5, 518, 141	7, 243, 576	56, 749, 702
1913–14	9, 618, 935	6, 675, 743	6, 499, 831	3, 605, 203	5, 766, 809	2, 832, 951	71, 643, 398
1914–15	3, 493, 415	3, 615, 553	3, 654, 029	3, 540, 711	2, 927, 745	2, 513, 660	32, 158, 217
1915–16	17, 440, 067	13, 483, 801	12, 426, 937	9, 449, 951	18, 511, 435	2, 095, 577	133, 716, 188
1916–17	8, 474, 752	4, 557, 824	7, 512, 190	5, 779, 174	8, 008, 279	17, 087, 040	104, 953, 682
1917–18	6, 372, 455	3, 239, 331	4, 854, 521	3, 856, 696	1, 567, 991	96, 248	38, 207, 776
1918–19	1, 862, 786	1, 587, 948	2, 083, 199	4, 107, 282	3, 158, 907	----------	16, 961, 663
1919–20	1, 552, 458	174, 000	2, 845, 382	1, 428, 718	10, 330	----------	10, 566, 603
1920–21	10, 423, 290	6, 642, 019	5, 609, 961	3, 747, 239	2, 180, 544	1, 136, 199	49, 507, 524
1921–22	15, 439, 396	6, 498, 342	9, 362, 172	4, 240, 705	8, 113, 753	4, 255, 370	83, 187, 405
1922–23	15, 552, 317	13, 772, 838	8, 038, 450	11, 521, 340	5, 498, 122	6, 906, 186	110, 689, 367

Division of Statistical and Historical Research. Compiled from data of Bureau of Foreign and Domestic Commerce.

TABLE 32.—*Wheat, including flour: International trade, 1910–1923.*

Country.	Year ending July 31.							
	Average, 1910–1914.		1920–21		1921–22		1922–23, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	639	5, 936	6, 530	985	1, 698	5, 884	[1] 4, 167	[2] 2, 542
Argentina [3]	3	95, 243	1	193, 099	----------	62, 399	----------	141, 930
Australia [4]	7	49, 732	5	87, 340	2	116, 466	----------	49, 625
British India	208	49, 889	3	14, 945	16, 728	2, 810	[1] 377	28, 862
Bulgaria	----------	11, 182	(5)	1, 758	(5)	4, 477	----------	----------
Canada	448	95, 828	455	167, 217	372	185, 768	[4] 381	[4] 274, 886
Chile [3]	170	2, 593	44	1, 368	6	2, 150	----------	----------
Hungary	7, 214	49, 116	241	235	5	9, 097	[1] 224	5, 154
Yugoslavia	----------	----------	----------	3, 692	----------	2, 793	----------	----------
Rumania	196	54, 630	16	1, 400	(5)	3, 494	(5)	1, 595
Russia	556	104, 862	----------	----------	----------	----------	----------	----------
United States	1, 607	110, 076	45, 754	361, 839	19, 425	267, 855	[4] 19, 945	[4] 221, 923
PRINCIPAL IMPORTING COUNTRIES.								
Austria	11, 402	871	14, 348	6	18, 739	70	12, 986	[1] 99
Belgium	73, 398	23, 045	34, 056	1, 895	45, 289	4, 783	[4] 41, 025	[4] 1, 766
Brazil [3]	20, 495	----------	15, 879	----------	17, 230	----------	----------	----------
Czechoslovakia	----------	----------	18, 027	250	11, 408	208	11, 047	[1] 1, 592
Denmark	7, 155	597	362	22	4, 191	275	[4] 6, 249	[4] 313
Egypt	8, 244	59	11, 348	481	6, 918	328	[4] 7, 326	[4] 20
Finland	----------	----------	2, 394	----------	3, 268	(5)	[4] 4, 552	----------
France	44, 822	1, 203	69, 449	1, 134	19, 779	2, 632	[4] 44, 016	[4] 2, 779
Germany	91, 338	23, 264	60, 378	[4] 604	70, 681	1, 176	[4] 42, 676	[4] 623
Greece	----------	----------	10, 673	137	13, 233	5	[4] 18, 479	----------
Italy	56, 784	3, 682	99, 021	246	101, 030	512	[4] 112, 003	[4] 1, 776
Japan	4, 116	28	5, 887	128	24, 815	51	14, 092	[1] 488
Latvia	----------	----------	567	----------	721	(5)	[1] 871	[1] 5
Netherlands	80, 702	58, 435	21, 533	2, 728	22, 974	3, 286	[4] 25, 935	[4] 3, 365
Norway	3, 674	----------	3, 822	6	5, 090	3	[4] 6, 433	----------
Poland	----------	----------	----------	----------	1, 270	94	[7] 2, 474	[1] 29
Portugal	2, 630	219	----------	----------	----------	----------	----------	----------
Spain	6, 262	70	20, 558	754	8, 282	257	[4] 8, 976	[4] 703
Sweden	7, 080	23	6, 863	299	4, 547	699	[8] 16, 017	[8] 1
Switzerland	16, 937	14	12, 883	1	13, 216	(5)	[1] 2, 001	[1] 308
Tunis	1, 746	960	1, 930	618	645	2, 266	----------	----------
Union of South Africa [3]	6, 274	253	8, 533	114	1, 863	81	2, 920	17
United Kingdom	220, 570	3, 768	201, 824	2, 843	212, 186	5, 214	[4] 209, 290	[4] 6, 465
Total countries reported	674, 677	805, 578	673, 984	846, 144	645, 611	685, 133	615, 372	746, 866

Division of Statistical and Historical Research. Compiled from International Institute of Agriculture, except figures with footnotes (3) and (4), which are compiled from official sources.

[1] Ten months ending May 31.
[2] Twelve months for wheat, ten months for flour.
[3] Calendar years, 1909–1922.
[4] Years ending June 30.
[5] Less than 500 bushels.
[6] Eight months, Aug.–Dec., 1920 and May–July, 1921.
[7] Ten months for wheat, twelve months for flour.
[8] Eleven months

TABLE 36.—*Wheat: Weighted average price per bushel of reported cash sales*—Con.

NO. 1 NORTHERN SPRING, MINNEAPOLIS, 1899–1923.[1]

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
1899–1900	$0.70	$0.70	$0.69	$0.69	$0.65	$0.65	$0.65	$0.65	$0.65	$0.66	$0.66	$0.71	$0.67
1900–1	.78	.74	.76	.76	.74	.73	.75	.74	.74	.72	.73	.69	.74
1901–2	.65	.69	.68	.62	.70	.74	.76	.74	.72	.73	.75	.75	.71
1902–3	.78	.72	.67	.70	.72	.73	.76	.77	.76	.76	.78	.84	.75
1903–4	.86	.93	85	.82	.80	.82	.88	.97	.97	.93	.94	.94	.89
1904–5	.97	1.14	1.17	1.15	1.07	1.09	1.14	1.13	1.11	1.02	1.13	1.10	1.10
1905–6	1.08	.98	.81	.86	.84	.85	.83	.81	.77	.79	.83	.84	.86
1906–7	.79	.75	.74	.76	.80	.80	.80	.82	.80	.84	.96	1.01	.82
1907–8	1.02	1.00	1.08	1.12	1.03	1.07	1.10	1.06	1.07	1.08	1.09	1.08	1.06
1908–9	1.14	1.12	1.08	1.04	1.06	1.10	1.09	1.13	1.15	1.24	1.31	1.34	1.15
1909–10	1.29	1.06	1.04	1.04	1.05	1.12	1.14	1.14	1.15	1.11	1.10	1.09	1.09
1910–11	1.21	1.13	1.09	1.06	1.04	1.03	1.06	1.02	.98	.96	.99	.97	1.05
1911–12	.99	1.05	1.09	1.10	1.05	1.02	1.06	1.06	1.08	1.10	1.16	1.13	1.07
1912–13	1.09	.98	.89	.90	.84	.82	.89	.87	.85	.88	.91	.92	.87
1913–14	.91	.88	.87	.84	.85	.86	.87	.93	.92	.91	.94	.92	.88
Av. 1909–1913	1.10	1.02	1.00	.99	.97	.97	1.00	1.00	1.00	.99	1.02	1.01	.99
1914–15	.92	1.10	1.12	1.11	1.18	1.20	1.38	1.52	1.49	1.58	1.58	1.35	1.20
1915–16	1.44	1.18	.97	1.02	1.02	1.14	1.29	1.26	1.14	1.22	1.22	1.11	1.09
1916–17	1.21	1.04	1.64	1.79	1.95	1.79	1.93	1.86	2.03	2.38	2.96	2.73	1.76
1917–18	2.06	2.47	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.20
1918–19	2.17	2.23	2.23	2.19	2.22	2.22	2.21	2.24	2.36	2.56	2.50	2.48	2.25
1919–20	2.66	2.59	2.56	2.67	2.85	3.07	3.01	2.67	2.84	3.06	3.09	2.93	2.72
1920–21	2.89	2.56	2.54	2.16	1.80	1.68	1.79	1.72	1.66	1.53	1.55	1.69	2.07
Av. 1914–1920	1.99	1.97	1.89	1.87	1.88	1.90	1.97	1.92	1.96	2.07	2.17	2.07	1.90
1921–22	1.67	1.48	1.51	1.34	1.25	1.30	1.34	1.51	1.51	1.58	1.56	1.46	1.43
1922–23	1.49	1.11	1.10	1.15	1.23	1.25	1.23	1.26	1.24	1.30	1.28	1.17	1.20
1923–24	1.12	1.18	1.21	1.20	1.14	1.16	------	------	------	------	------	------	------

NO. 2 RED WINTER, CHICAGO, 1899–1923.[2]

1899–1900	$0.72	$0.72	$0.71	$0.72	$0.69	------	$0.67	$0.69	$0.69	$0.70	$0.70	$0.75	------
1900–1	.77	.77	.76	.77	.74	$0.74	.76	.75	.75	.75	.74	.72	$0.76
1901–2	.68	.71	.70	.72	.75	.82	.85	.83	.82	.82	.81	.79	.72
1902–3	.73	.71	.81	.82	.76	.75	.75	.76	.74	.78	.78	.80	.75
1903–4	.78	.82	.82	.82	.84	.88	.94	1.04	1.03	1.05	1.07	1.05	.83
1904–5	.97	1.01	1.10	1.19	1.16	------	1.20	------	1.15	1.07	.92	1.04	------
1905–6	.90	.85	.85	.88	.87	------	.88	.84	.82	.87	.89	.86	------
1906–7	.78	.73	.72	.74	.74	.74	.74	.76	.77	.79	.93	.95	.77
1907–8	.92	.87	.97	1.01	.95	.99	1.01	.94	.98	.95	1.03	.92	.90
1908–9	.92	.96	1.00	1.01	1.05	1.05	1.07	1.20	1.22	1.33	1.48	1.60	.96
1909–10	1.10	1.04	1.07	1.20	1.18	1.25	1.26	1.23	1.18	1.11	1.11	1.01	1.10
1910–11	1.07	1.02	.99	.96	.93	.94	.98	.91	.90	.90	.96	.91	1.02
1911–12	.86	.90	.93	1.00	.96	.96	.97	1.01	1.03	1.09	1.16	1.10	.90
1912–13	1.05	1.03	1.03	1.06	.99	.86	1.09	.99	.95	1.02	1.03	1.00	1.08
1913–14	.87	.88	.93	.92	.92	.94	.97	.97	.95	.95	.99	.82	.88
Av. 1909–1913	.99	.97	.99	1.03	1.00	.99	1.05	1.02	1.00	1.01	1.05	.97	.99
1914–15	.82	.92	1.11	1.12	1.15	1.20	1.39	1.57	1.52	1.59	1.55	1.24	1.08
1915–16	1.13	1.11	1.08	1.12	1.12	1.23	1.30	1.23	1.13	1.22	1.15	1.05	1.13
1916–17	1.23	1.43	1.53	1.66	1.85	1.76	1.89	1.74	1.99	2.43	2.94	2.76	1.68
1917–18	2.50	2.30	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.16	2.17	2.25
1918–19	2.22	2.21	2.25	2.25	2.24	2.29	2.34	2.28	2.36	2.52	2.76	2.32	2.22
1919–20	2.23	2.24	2.24	2.24	2.29	2.44	2.64	2.42	2.55	2.63	3.10	2.89	2.24
1920–21	2.59	2.50	2.53	2.20	2.01	2.02	1.94	1.85	1.65	1.41	1.07	1.47	2.22
Av. 1914–1920	1.83	1.82	1.84	1.82	1.83	1.87	1.95	1.89	1.91	2.00	2.19	1.99	1.83
1921–22	1.24	1.22	1.29	1.18	1.23	1.18	1.21	1.34	1.38	1.40	1.34	1.18	1.25
1922–23	1.14	1.07	1.06	1.18	1.27	1.33	1.30	1.35	1.31	1.32	1.28	1.16	1.14
1923–24	1.00	1.00	1.05	1.11	1.06	1.09	------	------	------	------	------	------	------

[1] Compiled from Minneapolis Daily Market Record. Prior to the promulgation of the Federal grades, August 1, 1917, the subclass Dark Northern did not exist.

[2] Compiled from the Chicago Daily Trade Bulletin.

TABLE 36.—*Wheat: Weighted average price per bushel of reported cash sales*—Con.

NO. 2 RED WINTER, ST. LOUIS, 1899–1923.[3]

Year beginning July.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
1899–1900	$0.71	$0.71	$0.70	$0.72	$0.70	$0.71	$0.71	$0.72	$0.72	$0.72	$0.71	$0.77	$0.72
1900–1	.75	.73	.76	.74	.73	.72	.74	.74	.75	.74	.75	.69	.74
1901–2	.66	.71	.71	.72	.74	.84	89	.86	.82	.80	.81	.78	.73
1902–3	.71	.66	.67	.70	.69	.72	.75	.76	.73	.72	.75	.79	.71
1903–4	.80	.81	.85	.87	.87	.92	.93	1.04	1.05	1.06	1.08	1.07	.86
1904–5	.97	1.01	1.15	1.18	1.15	1.15	1.18	1.18	1.15	1.09	1.08	1.05	1.04
1905–6	.89	.85	.86	.92	.92	.93	.94	.92	.91	.95	.94	.88	.90
1906–7	.75	.70	.72	.76	.75	.76	.77	.78	.77	.78	.89	.94	.76
1907–8	.89	.87	.95	1.03	.96	1.00	1.03	1.12	1.02	.99	1.02	.96	.96
1908–9	.92	.95	1.02	1.03	1.07	1.08	1.11	1.24	1.30	1.36	1.39	1.57	1.04
1909–10	1.13	1.12	1.14	1.23	1.22	1.28	1.30	1.27	1.23	1.12	1.16	1.02	1.13
1910–11	1.07	1.02	1.02	1.00	.96	.98	1.03	.96	.93	.90	.94	.88	.99
1911–12	.84	.88	.94	1.00	.96	.97	1.02	1.01	1.04	1.13	1.21	1.11	.94
1912–13	1.03	1.04	1.03	1.09	1.04	1.07	1.11	1.09	1.08	1.09	1.04	.99	1.05
1913–14	.85	.88	.94	.93	.94	.95	.96	.95	.95	.94	.96	.84	.89
Av. 1909–1913	.98	.99	1.01	1.05	1.02	1.05	1.08	1.06	1.05	1.04	1.06	.97	1.00
1914–15	.87	.93	1.10	1.10	1.11	1.18	1.40	1.57	1.50	1.84	1.50	1.19	1.10
1915–16	1.17	1.14	1.14	1.21	1.16	1.23	1.34	1.30	1.17	1.22	1.20	1.10	1.20
1916–17	1.25	1.45	1.60	1.73	1.87	1.83	1.96	1.88	2.05	2.66	3.04	2.65	1.63
1917–18	2.36	2.32	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.23
1918–19	2.21	2.21	2.19	2.22	2.22	2.32	2.41	2.38	2.55	2.71	2.60	2.41	2.23
1919–20	2.22	2.20	2.21	2.24	2.29	2.48	2.70	2.55	2.58	2.76	2.99	2.89	2.30
1920–21	2.70	2.47	2.56	2.25	2.03	1.99	2.02	1.90	1.66	1.41	1.58	1.50	2.18
Av. 1914–1920	1.83	1.82	1.85	1.84	1.83	1.88	2.00	1.96	1.95	2.06	2.15	1.98	1.84
1921–22	1.23	1.23	1.36	1.20	1.20	1.21	1.16	1.32	1.35	1.44	1.38	1.18	1.27
1922–23	1.12	1.08	1.14	1.23	1.29	1.36	1.36	1.39	1.36	1.41	1.33	1.23	1.28
1923–24	.97	.99	1.09	1.16	1.12	1.14	.....	.....	.....	.....	.....	.....	.....

NO. 2 HARD WINTER, KANSAS CITY, 1899–1923.[4]

1899–1900	$0.66	$0.65	$0.65	$0.65	$0.63	$0.64	$0.63	$0.64	$0.64	$0.64	$0.62	$0.66	$0.65
1900–1	.69	.66	.67	.68	67	.66	.....	.....	.....	.....	.....	.....	[5] .67
1901–2	.....	.....	.....	.....	.....	.....	.79	.75	.72	.72	.74	.70	[5] .73
1902–3	.70	.66	.67	.67	.67	.67	.67	.68	.68	.68	.69	.73	.68
1903–4	.70	.73	.73	.73	.72	.71	.75	.87	.89	.89	.92	.89	.77
1904–5	.87	.94	1.03	1.06	1.05	1.05	1.07	1.09	1.04	.93	1.01	1.00	.97
1905–6	.84	.80	.78	.80	.81	.81	.81	.78	.76	.79	.80	.78	.80
1906–7	.71	.68	.66	.69	.69	.70	.71	.72	.71	.73	.90	.91	.72
1907–8	.87	.86	.93	1.00	.96	.97	1.00	.95	.98	.97	1.00	.97	.93
1908–9	.97	.95	.98	.99	1.02	1.03	1.06	1.10	1.15	1.30	1.38	1.37	.99
1909–10	1.14	1.02	1.02	1.06	1.04	1.10	1.11	1.11	1.10	1.08	1.07	1.08	1.07
1910–11	1.04	1.00	.99	.95	.91	.93	.95	.90	.88	.88	.90	.88	.98
1911–12	.87	.93	.95	1.04	1.00	1.00	1.05	1.03	1.05	1.09	1.11	1.09	.97
1912–13	.92	.89	.88	.88	.83	.84	.87	.86	.86	.88	.87	.88	.88
1913–14	.82	.83	.87	.84	.83	.84	.85	.86	.88	.87	.90	.85	.84
Av. 1909–1913	.96	.93	.94	.95	.92	.94	.97	.95	.95	.96	.97	.96	.95
1914–15	.78	.91	1.04	1.02	1.08	1.13	1.34	1.54	1.49	1.54	1.50	1.21	1.05
1915–16	1.36	1.26	1.07	1.07	1.03	1.12	1.20	1.20	1.05	1.12	1.10	1.00	1.19
1916–17	1.14	1.41	1.57	1.67	1.85	1.72	1.89	1.82	1.97	2.43	3.01	2.74	1.71
1917–18	2.68	2.61	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	.....	2.52
1918–19	2.20	2.16	2.16	2.16	2.15	2.24	2.31	2.26	2.39	2.62	2.60	2.47	2.19
1919–20	2.25	2.18	2.24	2.30	2.46	2.63	2.82	2.42	2.49	2.75	2.93	2.76	2.42
1920–21	2.67	2.44	2.43	2.06	1.78	1.71	1.72	1.62	1.55	1.33	1.47	1.38	1.86
Av. 1914–1920	1.87	1.85	1.80	1.77	1.78	1.81	1.91	1.85	1.87	1.99	2.10	.....	1.85
1921–22	1.14	1.15	1.22	1.10	1.10	1.09	1.13	1.29	1.34	1.35	1.34	1.17	1.19
1922–23	1.13	1.04	1.04	1.13	1.17	1.17	1.14	1.15	1.16	1.20	1.16	1.04	1.13
1923–24	.96	1.01	1.09	1.12	1.09	1.09	.....	.....	.....	.....	.....	.....	.....

[3] Compiled from St. Louis Daily Market Reporter.
[4] Compiled from Kansas City Daily Price Current.
[5] Six months' average. No record for 1901.

TABLE 26.—*Wheat: Weighted average price per bushel of reported cash sales*—Con.

NO. 2 HARD WINTER, NEW YORK, 1909–1923.[6]

Year beginning July.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
1909–10	$1.31	$1.12	$1.12	$1.20	$1.19	$1.24	$1.26	$1.33	$1.27	$1.19	$1.14	$1.05	$1.20
1910–11	1.14	1.10	1.06	1.04	1.02	1.02	1.06	1.08	1.06	.99	1.03	.97	1.04
1911–12	.98	.98	1.04	1.10	1.05	1.07	1.11	1.13	1.13	1.19	1.24	1.20	1.10
1912–13	1.10	1.02	1.01	1.02	.99	.99	1.06	1.04	1.00	1.02	1.02	1.04	1.03
1913–14	.99	.97	.96	.95	.96	1.00	.98	1.00	1.02	1.02	1.05	1.00	.99
Av. 1909–1913	1.10	1.04	1.04	1.06	1.04	1.06	1.09	1.11	1.08	1.06	1.10	1.05	1.07
1914–15	.98	1.01	1.13	1.12	1.28	1.31	1.52	1.72	1.66	1.67	1.65	1.37	1.36
1915–16	1.36	1.23	1.26	1.24	(7)	(7)	1.46	1.42	1.25	1.29	1.24	1.15	1.26
1916–17	1.26	1.57	1.66	1.84	2.09	1.93	2.09	2.09	2.16	2.63	3.07	(7)	2.02
1917–18	2.44	2.46	2.26	2.04	2.31	2.02	2.26	2.26	2.26	2.26	2.26	2.26	2.40
1918–19	2.31	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.38	2.35
1919–20	2.36	2.36	2.36	2.36	2.36	2.36	2.37	2.37	2.54	3.08	3.09	2.98	2.55
1920–21	2.92	2.62	2.65	2.33	2.06	1.96	2.00	1.99	1.84	1.59	1.75	1.67	2.19
Av. 1914–1920	1.94	1.95	1.96	1.99	.....	.....	2.00	2.04	2.00	2.12	2.21	1.97	2.01
1921–22	1.46	1.36	1.36	1.20	1.16	1.25	1.26	1.48	1.46	1.51	1.49	1.39	1.35
1922–23	1.32	1.23	1.19	1.23	1.36	1.37	1.32	1.30	1.33	1.37	1.34	1.25	1.31
1923–24	1.16	1.14	1.16	1.22	1.19	1.22	.....	.....	.....	.....	.....	.....	.....

NO. 1 NORTHERN SPRING, WINNIPEG, 1909–1923.[8]

1909–10	$1.31	$1.19	$1.00	$0.97	$0.97	$0.98	$1.03	$1.03	$1.04	$1.03	$0.98	$0.93	$0.96
1910–11	1.08	1.07	1.03	.98	.92	.99	.94	93	90	.90	.95	.97	.96
1911–12	.95	1.01	1.01	1.00	.99	.95	.95	.97	.98	1.01	1.04	1.06	.99
1912–13	1.07	1.06	1.00	.91	.85	.89	.82	.84	.85	.89	.93	.96	.92
1913–14	.97	.95	.89	.81	.83	.84	.85	.88	.90	.90	.93	.94	.89
Av. 1909–1913	1.08	1.06	.99	.93	.91	.89	.92	.93	.93	.95	.97	.97	.94
1914–15	.90	1.04	1.13	1.11	1.18	1.18	1.32	1.51	1.49	1.54	1.61	1.32	1.28
1915–16	1.35	1.25	.95	.96	1.02	1.07	1.18	1.26	1.20	1.04	1.17	1.11	1.12
1916–17	1.14	1.42	1.59	1.68	1.93	1.76	1.80	1.68	1.85	2.11	2.75	2.49	1.85
1917–18	2.34	2.40	2.25	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.24
1918–19	2.21	2.21	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
1919–20	2.24	2.24	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.17
1920–21	2.15	2.15	2.72	2.32	2.03	1.94	1.94	1.88	1.91	1.76	1.86	1.89	2.05
Av. 1914–1920	1.76	1.82	1.86	1.81	1.82	1.79	1.83	1.85	1.86	1.86	2.00	1.92	1.85
1921–22	1.86	1.74	1.46	1.14	1.11	1.13	1.14	1.36	1.41	1.43	1.46	1.33	1.38
1922–23	1.35	1.17	.99	1.01	1.16	1.08	1.07	1.19	1.19	1.19	1.15	1.12	1.12
1923–24	1.05	1.16	1.04	.96	.96	.91	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research.

[6] Compiled from New York Journal of Commerce; not weighted; average of daily quotations.
[7] Nominal.
[8] Compiled from Winnipeg Farmers' Advocate; not weighted; average of the daily cash close.

TABLE 37.—*Wheat: Weighted average price[1] per bushel of reported cash sales of all classes and grades combined at markets named, 1918–1923.*

MINNEAPOLIS.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1918-19	212.8	221.3	219.0	218.6	220.5	220.0	218.9	221.2	230.5	245.3	251.8	239.8	222.4
1919-20	268.9	260.1	264.0	260.9	261.6	278.5	276.5	245.6	254.8	265.3	297.0	278.7	257.6
1920-21	274.6	247.1	244.9	268.9	172.4	163.0	167.3	156.3	161.5	135.1	144.5	146.0	187.9
1921-22	145.3	132.2	136.6	131.5	117.3	117.7	126.2	128.9	141.3	146.2	140.7	136.5	131.2
1922-23	140.5	114.2	131.0	113.8	122.3	125.1	119.2	120.8	121.2	126.5	124.8	115.8	119.2
1923-24	140.7	111.2	114.6	115.3	109.4	108.9							

KANSAS CITY.

1918-19	220.2	215.5	214.0	213.2	212.4	217.5	223.1	218.6	227.1	252.0	248.0	233.8	218.1
1919-20	249.3	264.4	245.9	231.2	235.9	252.2	266.3	233.4	241.5	263.5	286.3	273.5	244.9
1920-21	267.4	245.6	246.0	266.6	176.3	170.2	173.0	164.6	154.6	133.5	147.5	139.7	190.2
1921-22	117.0	115.0	120.4	109.8	107.6	108.2	111.1	127.4	131.4	132.3	125.9	113.2	118.2
1922-23	111.0	108.2	104.1	111.1	114.5	116.3	114.0	115.1	115.4	119.7	115.9	104.1	110.8
1923-24	94.9	99.2	102.6	107.1	101.3	99.9							

CHICAGO.

1918-19	225.0	223.0	220.6	220.6	220.6	223.2	222.3	220.1	230.8	250.0	252.5	232.8	223.6
1919-20	223.9	222.2	221.9	225.7	242.0	240.5	272.2	236.5	242.0	269.8	295.8	280.5	226.1
1920-21	264.9	248.8	249.8	260.9	280.7	173.4	178.6	171.9	157.3	139.7	156.5	142.7	216.3
1921-22	124.1	119.8	124.4	112.0	107.9	110.5	112.7	128.6	120.7	122.4	132.7	115.9	121.6
1922-23	113.4	107.0	104.5	113.4	119.0	123.6	117.6	120.6	120.0	124.8	119.3	109.3	112.2
1923-24	99.1	99.6	101.0	106.8	103.1	105.3							

ST. LOUIS.

1918-19	221.6	221.0	221.2	222.0	221.7	230.5	230.2	231.2	252.3	262.3	257.8	239.5	225.6
1919-20	226.7	218.6	218.3	220.9	224.8	224.9	252.5	247.4	253.5	275.8	293.1	283.0	225.2
1920-21	273.3	249.9	253.1	219.2	197.2	191.2	194.7	183.7	163.9	139.8	155.0	148.2	210.1
1921-22	120.3	116.3	122.6	111.6	107.7	109.0	115.3	131.3	123.1	133.3	130.6	113.1	120.4
1922-23	107.4	103.4	107.2	116.7	121.6	126.0	124.5	128.0	125.8	129.6	124.8	114.3	115.8
1923-24	96.6	97.1	102.6	111.4	106.9	108.0							

FOUR MARKETS COMBINED.

1918-19	221.2	219.9	218.5	218.3	219.4	230.6	220.7	221.3	232.4	249.2	251.7	238.2	221.7
1919-20	223.1	235.9	223.6	229.3	246.5	256.8	267.9	240.1	248.6	278.2	292.3	277.0	241.6
1920-21	270.6	247.3	248.6	265.8	175.1	167.2	172.4	163.2	154.3	135.3	147.6	144.1	193.3
1921-22	122.9	121.7	128.5	117.3	113.1	113.8	115.8	131.4	136.1	138.5	135.0	122.5	128.7
1922-23	117.1	107.6	108.6	113.4	120.0	121.3	118.3	120.0	120.4	125.0	122.2	112.6	116.0
1923-24	99.8	102.7	109.5	112.6	107.3	106.4							

Division of Statistical and Historical Research. Compiled from daily trade papers of markets named.

[1] The prices in this table are comparable with the farm prices. The farm prices are averages of the several prices reported which covered all classes and grades sold from the farm.

TABLE 38.—*Wheat: Good average quality imported red, average spot prices per bushel of 60 pounds at Liverpool, 1879–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.	High.	Low.
1879	1.29	1.29	1.36	1.32	1.35	1.32	1.38	1.35	1.46	1.68	1.64	1.69	1.43	1.75	1.64
1880	1.57	1.59	1.63	1.53	1.43	1.38	1.35	1.31	1.28	1.34	1.40	1.40	1.43	1.64	1.26
1881	1.41	1.37	1.42	1.43	1.38	1.42	1.44	1.55	1.64	1.65	1.61	1.57	1.49	1.68	1.35
1882	1.59	1.58	1.50	1.55	1.52	1.52	1.52	1.37	1.25	1.25	1.26	1.29	1.43	1.61	1.20
1883	1.33	1.39	1.35	1.32	1.32	1.31	1.30	1.36	1.33	1.28	1.28	1.28	1.32	1.40	1.26
1884	1.24	1.24	1.24	1.14	1.14	1.16	1.14	1.15	1.00	.97	.97	1.02	1.12	1.26	.96
1885	1.08	1.03	1.06	1.16	1.12	1.06	1.06	1.07	1.06	1.09	1.06	1.05	1.08	1.20	1.02
1886	1.07	1.06	1.01	1.03	1.03	.97	.97	.99	.99	.98	1.02	1.08	1.02	1.09	.95
1887	1.09	1.07	1.06	1.03	1.06	1.02	.95	.90	.88	.94	.98	1.00	1.00	1.13	.86
1888	.99	.98	.98	.99	1.00	.99	1.00	1.10	1.15	1.22	1.25	1.21	1.07	1.26	.97
1889	1.16	1.14	1.12	1.04	.95	.94	1.00	1.03	1.02	1.03	1.02	1.02	1.04	1.17	.93
1890	1.03	1.03	1.03	1.05	1.06	1.03	1.04	1.05	1.04	1.04	1.03	1.03	1.04	1.07	1.02
1891	1.12	1.12	1.19	1.24	1.25	1.19	1.14	1.23	1.19	1.20	1.26	1.23	1.20	1.30	1.11
1892	1.16	1.14	1.14	1.09	1.02	1.04	1.02	.91	.86	.88	.86	.83	1.00	1.20	.80
1893	.85	.85	.81	.81	.84	.82	.82	.79	.80	.78	.76	.78	.81	.89	.78
1894	.76	.74	.71	.70	.67	.64	.65	.61	.61	.60	.67	.73	.67	.78	.58
1895	.67	.64	.68	.73	.81	.82	.77	.79	.72	.74	.75	.75	.74	.86	.63
1896	.80	.83	.80	.80	.81	.79	.76	.75	.81	.95	.99	.99	.84	1.03	.73
1897	.96	.91	.89	.86	.86	.83	.90	1.10	1.15	1.10	1.09	1.09	.98	1.42	.81
1898	1.08	1.18	1.14	1.28	1.57	1.28	.96	.89	.84	.89	.89	.87	1.07	1.71	.78
1899	.86	.83	.79	.81	.86	.87	.82	.80	.84	.86	.83	.81	.83	.89	.77
1900	.86	.87	.86	.93	.95	.91	.91	.86	.91	.86	.87	.86	.89	.95	.84
1901	.89	.87	.87	.86	.86	.84	.82	.83	.81	.83	.84	.90	.85	.94	.78
1902	.90	.89	.89	.90	.92	.89	.91	.91	.86	.85	.85	.88	.89	.94	.83
1903	.90	.91	.90	.89	.90	.91	.89	.91	.90	.89	.88	.88	.90	.94	.86
1904	.89	.90	.95	.95	.92	.89	.89	.90	-----	-----	-----	-----	.91	.98	.85
1905	-----	-----	1.01	.99	.97	-----	-----	-----	.94	.96	.97	.96	.97	1.01	.93
1906	1.03	1.03	1.04	.99	.95	.95	.96	.92	.91	.91	.90	.90	.96	1.04	.89
1907	.89	.92	.92	.92	.98	1.04	1.04	1.05	1.11	1.14	1.12	1.13	1.02	1.23	.87
1908	1.16	1.07	1.04	1.11	1.09	1.08	1.09	1.08	1.11	1.12	1.15	1.16	1.10	1.20	1.02
1909	1.16	1.21	1.23	1.32	1.38	1.34	1.37	1.30	1.10	1.15	1.21	1.21	1.25	1.42	1.07
1910	1.24	1.23	1.21	1.18	1.10	1.04	1.08	1.15	1.12	1.08	1.04	1.04	1.13	1.25	.98
1911	1.07	1.07	-----	-----	1.03	1.04	1.04	1.04	1.07	1.08	1.05	1.07	1.06	1.10	1.03
1912	1.11	1.15	1.20	1.23	1.23	1.22	1.24	1.15	1.16	1.16	1.11	1.09	1.17	1.27	1.07
1913	1.11	1.12	1.12	1.13	1.12	1.11	1.10	1.07	1.04	1.02	1.04	1.05	1.09	1.15	1.02
Av. 1909–1913	1.14	1.16	1.19	1.22	1.17	1.15	1.17	1.14	1.10	1.10	1.09	1.09	1.14	-----	-----
1914	1.02	1.04	1.07	1.07	1.11	1.09	1.05	1.28	1.29	1.28	1.38	1.47	1.18	-----	-----
1915	1.67	1.95	1.91	1.94	1.98	1.65	1.63	1.61	1.67	1.71	1.59	1.73	1.75	-----	-----
1916	1.94	1.90	2.00	1.93	1.71	1.55	1.58	1.96	2.00	2.15	2.22	2.39	1.94	-----	-----
1917	2.39	2.43	2.42	2.46	2.46	2.46	2.50	2.50	2.38	2.28	2.26	2.26	2.40	-----	-----
1918	2.32	2.32	2.39	2.32	2.32	2.32	2.32	2.32	2.32	2.39	2.46	2.46	2.36	-----	-----
1919	2.46	2.46	2.43	2.41	2.41	2.39	2.29	2.21	2.16	2.16	2.11	1.95	2.29	-----	-----
1920	1.90	1.75	2.11	2.37	2.34	2.40	2.34	2.20	2.13	2.34	2.53	2.39	2.23	-----	-----
Av. 1914–1920	1.96	1.98	2.05	2.07	2.05	1.98	1.96	2.01	1.99	2.04	2.08	2.09	2.02	-----	-----
1921	2.33	2.14	2.14	2.13	2.18	1.96	1.71	1.59	1.56	1.31	1.26	1.37	1.81	-----	-----
1922	1.37	-----	1.58	1.58	1.59	1.44	1.49	1.35	1.29	1.44	1.52	1.54	1.47	-----	-----
1923	1.42	1.41	1.40	1.46	-----	-----	-----	1.26	1.22	1.23	1.25	-----	-----	-----	-----

Division of Statistical and Historical Research. 1879–1903, compiled from Broomhall's 1904 Year Book, p. 144; 1914–1920 from Broomhall's 1921 Year Book. Remainder of table from Corn Trade News. High and low not given 1914–1923. Conversions at par 1879–1912; current exchange rate for remainder of period.

TABLE 39.—*Wheat, Barletta:*[1] *Average prices per bushel of 60 pounds at Buenos Aires, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	$1.01	$1.00	$1.00	$1.03	$0.96	$0.99	$0.99	$1.01	$1.02	$1.01	$0.96	$0.92	$0.99
1913	.91	1.00	.93	.99	.95	1.02	1.02	1.01	[2]1.07	[2]1.03	[2]1.08	.95	1.00
1914	.95	.99	.98	.95	1.01	.99	1.01	1.22	1.23	[4]1.12	[4]1.24	[4]1.22	1.08
1915	1.26	1.42	1.39	1.44	1.48	1.35	1.33	1.29	1.31	1.36	1.31	1.20	1.34
1916	1.05	1.06	.96	.95	.85	.83	.84	1.06	1.19	1.49	1.74	1.48	1.12
1917	1.65	1.64	1.67	1.72	2.00	2.21	2.23	2.02	2.00	2.02	2.10	1.79	1.92
1918	1.56	1.55	1.58	1.59	1.57	1.56	1.50	1.41	1.42	1.41	1.46	1.49	1.51
1919	1.31	1.31	1.27	1.27	1.33	1.34	1.82	1.94	1.85	1.66	1.71	1.63	1.54
1920	1.65	1.75	2.02	2.55	2.79	2.58	2.85	2.43	2.48	2.58	[3]2.75	1.86	2.36
Av. 1914–1920	1.35	1.39	1.41	1.50	1.58	1.55	1.65	1.62	1.64	1.66	1.76	1.52	1.55
1921	1.76	1.58	1.62	1.46	1.48	1.50	1.45	1.43	1.50	1.22	1.05	1.05	1.42
1922	1.04	1.26	1.32	1.30	1.32	1.22	1.27	1.20	1.16	1.22	1.20	1.22	1.23
1923	1.20	1.22	1.20	1.21	1.17	1.13	1.05	1.00	1.05	1.09	1.13	1.04	1.12

Division of Statistical and Historical Research.

Prices and monthly exchange rates from International Yearbook of Agricultural Statistics, 1922. Exchange after July, 1921, from Federal Reserve Bulletin, supplemented by Review of the River Plate.

[1] Barletta is a semihard wheat. [2] No. 1 Rosario wheat. [3] Description "Pan." [4] New crop.

TABLE 40.—*Wheat, white: Spot prices per bushel of 60 pounds at Karachi, India, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	$0.90	$0.94	$0.94	$0.96	$0.93	$0.89	$0.88	$0.89	$0.88	$0.89	$0.89	$0.89	$0.91
1913	.92	.97	.97	.93	.92	.90	.99	.87	.87	.86	.88	.88	.91
1914	.91	.93	.91	.92	.94	.91	.90	.96	1.08	1.09	1.22	1.23	1.00
1915	1.27	1.43	1.22	1.21	1.07	1.02	1.02	1.06	1.12	1.10	1.09	1.07	1.14
1916	1.09	1.03	.97	.89	.88	.86	.95	1.05	1.03	1.04	1.10	1.15	1.00
1917	1.19	1.14	1.13	1.12	1.04	1.05	1.08	1.07	1.14	1.13	1.22	1.26	1.13
1918	1.22	1.23	1.24	1.24	1.25	1.23	1.26	1.31	1.41	1.57	1.61	1.63	1.35
1919	1.82	1.82	1.91	1.78	2.07	2.01	2.06	2.16	2.14	1.93	2.04	2.16	1.99
1920	2.12	2.09	1.91	1.90	1.74	1.62	[1]1.49	[1]1.35	1.34	1.36	1.32	1.22	1.62
Av. 1914–1920	1.37	1.38	1.33	1.29	1.28	1.24	1.25	1.28	1.32	1.32	1.37	1.39	1.32
1921	1.28	1.29	1.26	1.26	1.33	1.31	1.29	1.52	1.86	1.73	1.57	1.60	1.44
1922	1.50	[2]	[2]	[2]	1.36	1.36	1.25	1.22	1.11	.89	.91	1.17	1.20
1923	1.20	1.12	1.12	1.17	1.13	1.07	1.03	.91	.96	.97	.99	1.01	1.06

Division of Statistical and Historical Research. Compiled from Indian Trade Journal. Converted at par of $0.3244 per rupee to 1919, and current exchange rate as given by Federal Reserve Bulletins 1919 to date.

[1] First week of month, from Review of the Trade of India. [2] Not quoted.

TABLE 41.—*Wheat: Average price per bushel of 60 pounds at Port Adelaide, Australia, 1912–1922.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	$0.88	$0.87	$0.88	$0.96	$0.96	$0.98	$0.96	$0.96	$0.99	$1.00	$0.96	$0.86	$0.94
1913	.85	.86	.86	89	.88	.87	.86	.87	.86	.84	.84	.84	.86
1914	.86	.87	.90	.90	.92	.93	.93	1.00	1.12	1.14	1.21	1.40	1.02
1915	1.48	1.65	1.74	1.76	1.80	1.81	1.82	1.79	1.78	1.41	1.05	1.23	1.61
1916[1]	1.13	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
1917[1]	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
1918[1]	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
1919[1]	1.14	1.19	1.18	1.16	1.16	1.15	1.11	1.07	1.05	1.15	1.12	1.13	1.13
1920[1]	1.19	1.29	1.45	1.50	1.48	1.51	1.48	1.39	1.35	1.33	1.31	1.34	1.38
Av. 1914–1920	1.15	1.20	1.24	1.25	1.25	1.26	1.25	1.24	1.25	1.21	1.16	1.22	1.22
1921[1]	1.69	1.74	1.76	1.77	1.79	1.70	1.63	1.64	1.68	1.74	[2]1.79	[2]1.87	1.73
1922	.99	1.07	1.18	1.15	1.27	1.20	1.19	1.15	1.14	1.15	1.15	1.17	1.15

Division of Statistical and Historical Research. Compiled from Statistical Register of South Australia, 1920–21 and 1921–22.

[1] The prices from 1916–1921 are those fixed for home consumption, the average prices on the whole transaction of the Wheat Harvest Board during each year being: 1916, $1.13; 1917, $1.14; 1918, $1.14; 1919, $1.31; 1920, $1.70; and 1921, $1.52.

[2] These prices for old wheat; new wheat price; November, $0.93; December, $1.02.

WHEAT FLOUR.

TABLE 42.—*Flour, wheat: Average wholesale price per barrel at markets named, 1909–1923.*

MINNEAPOLIS—SPRING PATENTS.[1]

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1909–10	$6.21	$5.89	$5.14	$5.20	$5.22	$5.48	$5.56	$5.25	$5.52	$5.38	$5.42	$5.33	$5.49
1910–11	6.20	5.79	5.75	5.21	5.03	5.01	5.28	4.91	4.75	4.64	4.89	4.81	5.19
1911–12	4.88	4.85	4.98	5.25	5.05	5.05	5.09	5.10	5.10	5.10	5.43	5.60	5.12
1912–13	5.43	5.24	4.68	4.63	4.59	4.13	4.25	4.43	4.45	4.43	4.43	4.63	4.61
1913–14	4.66	4.57	4.45	4.33	4.16	4.15	4.29	4.52	4.54	4.51	4.51	4.51	4.42
Av. 1909–1913	5.48	5.27	5.00	4.94	4.81	4.76	4.88	4.88	4.87	4.81	4.94	4.98	4.97
1914–15	4.62	5.78	6.02	5.56	5.79	6.01	6.26	7.54	7.16	7.61	7.41	6.78	6.43
1915–16	6.78	6.42	5.13	5.26	5.28	5.98	6.28	6.13	5.79	5.90	5.79	5.29	5.82
1916–17	5.68	7.69	8.26	9.08	9.58	8.60	9.00	9.45	9.44	11.33	14.09	13.08	9.53
1917–18	12.86	13.22	11.15	10.84	10.24	10.07	9.86	10.05	9.90	9.90	9.42	9.89	10.62
1918–19	10.45	10.53	10.49	10.44	10.41	10.44	10.42	10.69	11.22	12.09	12.52	12.99	10.98
1919–20	12.15	12.13	11.54	12.08	13.20	14.48	14.97	13.79	13.44	14.09	15.49	14.64	13.54
1920–21	14.12	13.33	13.02	11.45	9.74	9.25	9.94	9.38	9.10	8.39	9.04	9.49	10.51
Av. 1914–1920	9.52	9.87	9.37	9.24	9.17	9.27	9.61	9.42	9.42	9.97	10.54	10.15	9.63
1921–22	9.27	8.34	8.62	7.67	7.39	7.26	7.38	8.17	8.27	8.46	8.32	7.71	8.07
1922–23	7.95	7.22	6.68	6.76	6.88	6.86	6.71	6.72	6.72	7.00	6.80	6.35	6.89
1923–24	6.21	6.37	6.45	6.43	6.21	6.30							

ST. LOUIS—SOFT WINTER PATENTS.[2]

1909–10	$5.80	$4.92	$5.14	$5.75	$5.68	$5.82	$5.77	$5.80	$5.75	$5.49	$5.29	$5.11	$5.52
1910–11	5.20	4.85	4.76	4.68	4.58	4.58	4.86	4.64	4.52	4.38	4.39	4.36	4.65
1911–12	4.17	4.25	4.40	4.69	4.68	4.62	4.74	4.70	4.72	5.07	5.54	5.43	4.75
1912–13	5.26	4.49	4.54	4.70	4.67	4.70	4.84	4.86	4.68	4.59	4.52	4.45	4.69
1913–14	4.12	3.98	3.98	3.95	4.08	4.14	4.20	4.11	4.02	3.85	3.92	3.74	4.00
Av. 1909–1913	4.91	4.48	4.56	4.75	4.74	4.77	4.88	4.82	4.74	4.66	4.73	4.62	4.72
1914–15	3.47	4.16	5.04	4.86	4.91	5.03	6.18	6.98	6.57	6.65	6.66	5.56	5.51
1915–16	5.56	4.87	4.83	5.08	5.18	5.39	5.60	5.70	5.24	5.32	5.20	4.91	5.25
1916–17	5.24	6.85	7.31	7.84	8.72	8.31	8.67	8.44	8.83	11.29	13.91	12.53	9.00
1917–18	10.64	10.78	10.36	10.33	10.20	10.28	10.46	10.74	11.40	11.39	10.94	10.72	10.69
1918–19	10.25	10.25	10.25	10.25	10.25	10.25	11.22	11.65	10.71	11.45	11.41	10.28	10.68
1919–20	10.80	10.13	9.90	9.95	10.12	11.31	12.08	11.49	11.59	12.34	13.98	13.18	11.40
1920–21	11.98	11.99	12.09	11.38	10.13	9.44	9.73	9.71	8.76	7.10	7.81	7.98	9.84
Av. 1914–1920	8.28	8.43	8.54	8.53	8.51	8.57	9.13	9.26	9.01	9.36	9.98	9.31	8.91
1921–22	6.51	6.63	6.94	6.66	6.25	6.25	5.99	6.69	7.65	6.79	7.07	6.48	6.64
1922–23	5.94	5.75	5.86	6.29	6.50	6.62	6.50	6.62	6.50	6.66	6.53	6.05	6.32
1923–24	5.59	5.71	5.39	5.71	5.75	5.75							

CHICAGO—WINTER PATENTS.[3]

1909–10	$6.08	$5.07	$4.73	$5.29	$5.41	$5.40	$5.46	$5.42	$5.48	$5.27	$5.05	$4.75	$5.26
1910–11	4.92	4.87	4.72	4.57	4.40	4.41	4.53	4.31	4.09	4.06	4.20	4.16	4.44
1911–12	4.08	4.12	4.32	4.64	4.61	4.85	4.90	4.58	4.58	4.76	5.21	5.17	4.61
1912–13	4.30	4.52	4.69	4.52	4.56	4.59	4.62	4.67	4.50	4.48	4.48	4.41	4.58
1913–14	4.25	4.12	4.16	4.21	4.21	4.22	4.25	4.25	4.25	4.22	4.21	4.24	4.22
Av. 1909–1913	4.84	4.54	4.52	4.64	4.64	4.69	4.66	4.65	4.58	4.56	4.63	4.55	4.63
1914–15	3.80	4.54	5.36	5.16	5.23	5.22	6.28	7.42	7.01	7.16	7.19	5.69	5.84
1915–16	5.16	5.24	5.10	5.26	5.23	5.39	5.92	6.11	5.88	5.76	5.54	5.37	5.46
1916–17	5.22	6.55	7.30	7.78	8.82	8.20	9.09	8.44	9.10	11.20	14.91	13.80	9.20
1917–18	11.77	12.25	11.74	10.68	10.38	10.44	9.92	10.45	11.60	10.95	10.82	10.88	10.94
1918–19	10.88	10.69	10.20	10.06	9.88	10.22	10.85	10.42	10.36	11.44	12.99	11.82	10.77
1919–20	11.62	10.54	10.80	11.35	11.91	12.00	13.68	12.88	12.08	12.80	13.68	13.42	12.28
1920–21	12.68	11.79	12.22	11.80	10.40	8.78	10.19	9.26	9.05	7.91	7.84	8.76	10.02
Av. 1914–1920	8.66	8.80	8.96	8.76	8.79	8.75	9.38	9.26	9.14	9.53	10.42	9.96	9.21
1921–22	7.12	7.00	7.01	6.95	6.51	6.44	6.03	6.97	6.81	6.95	7.54	7.11	6.87
1922–23	6.75	6.16	6.34	6.48	6.44	6.67	6.39	6.20	6.26	6.19	6.02	5.80	6.30
1923–24	5.31	5.39	5.75	5.74	5.30	5.30							

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[1] Compiled from the Minneapolis Daily Market Record.
[2] Compiled from St. Louis Annual Statements of Trade and Commerce and St. Louis Market Reporter.
[3] Compiled from Chicago Board of Trade and Daily Trade Bulletin.

TABLE 42.—*Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1923*—Continued.

CHICAGO—SPRING PATENTS.[1]

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1909-10	$6.17	$6.31	$6.08	$5.93	$6.13	$6.45	$6.41	$6.35	$6.46	$6.29	$6.27	$6.18	$6.27
1910-11	6.78	6.65	6.37	6.31	6.13	6.28	6.42	6.06	5.96	5.85	5.62	5.44	6.08
1911-12	5.53	5.83	5.89	6.12	5.95	5.97	5.82	5.89	5.89	5.89	6.26	6.40	5.94
1912-13	6.16	5.79	5.65	5.36	5.14	4.84	4.66	4.65	4.66	4.71	4.89	4.84	5.16
1913-14	4.89	4.89	4.78	4.62	4.66	4.66	4.66	4.80	4.86	4.71	4.76	4.72	4.73
Av. 1909-1913	5.90	5.78	5.74	5.67	5.66	5.68	5.59	5.54	5.48	5.39	5.58	5.51	5.64
1914-15	4.58	5.62	6.19	5.71	5.79	5.99	6.97	7.02	7.41	7.62	7.85	6.62	6.49
1915-16	6.60	6.79	5.40	5.66	5.69	5.84	6.51	6.74	5.87	6.16	6.11	5.99	6.11
1916-17	5.96	7.62	8.15	9.84	9.79	9.08	9.54	9.01	9.75	12.02	15.34	17.46	10.29
1917-18	12.53	13.08	11.46	10.89	10.56	10.45	10.68	10.75	11.28	11.50	11.15	10.88	11.23
1918-19	10.65	11.60	10.68	10.48	9.98	10.30	10.42	10.28	10.29	11.45	13.10	11.25	10.79
1919-20	11.63	12.25	11.49	11.52	13.06	13.95	13.88	14.42	13.18	13.75	15.40	14.50	13.24
1920-21	13.35	13.15	12.42	11.75	10.75	8.33	10.66	8.82	8.75	8.46	8.42	9.60	10.31
Av. 1914-1920	9.34	9.91	9.38	9.39	9.31	9.14	9.63	9.66	9.49	10.14	11.06	10.90	9.78
1921-22	8.89	9.09	8.19	7.75	7.38	7.32	6.78	7.24	7.55	7.66	8.00	7.65	7.82
1922-23	7.75	7.25	6.99	6.86	6.78	7.00	6.85	6.68	6.68	6.04	6.68	6.22	6.86
1923-24	5.80	5.97	6.15	6.18	5.99	5.95							

NEW YORK—WINTER PATENTS.[2]

1909-10	$6.52	$6.28	$5.43	$5.77	$5.78	$5.74	$5.96	$5.95	$5.96	$5.82	$5.74	$5.40	$5.86
1910-11	5.44	5.36	5.07	4.92	4.81	4.86	5.02	4.92	4.78	4.63	4.67	4.65	4.93
1911-12	4.68	4.67	4.71	4.90	4.90	4.90	4.96	5.06	5.08	5.32	6.00	6.00	5.10
1912-13	5.79	5.28	5.34	5.38	5.33	5.38	5.55	5.75	5.44	5.50	5.50	5.54	5.47
1913-14	5.58	5.42	4.89	4.91	4.90	4.90	4.92	4.97	5.00	4.86	5.00	4.98	5.03
Av. 1909-1913	5.00	5.40	5.09	5.17	5.14	5.15	5.28	5.33	5.25	5.23	5.38	5.31	5.28
1914-15	4.90	5.22	5.81	5.80	5.80	5.86	6.79	7.86	7.56	7.39	7.55	6.64	6.42
1915-16	6.48	6.62	5.68	5.89	5.90	6.20	6.70	6.62	6.26	6.24	5.91	5.48	6.17
1916-17	5.63	7.34	7.86	8.30	8.90	8.60	9.09	8.87	9.53	11.41	14.57	12.98	9.49
1917-18	11.72	11.12	10.94	10.64	10.51	10.45	10.44	10.43	10.91	11.00	10.98	10.98	10.84
1918-19	11.35	10.71	10.40	10.28	10.25	10.53	10.48	10.25	10.55	11.40	11.38	11.19	10.73
1919-20	11.11	10.53	10.52	10.22	10.18	10.68	10.99	10.98	10.91	11.47	12.90	13.67	11.18
1920-21	12.46	11.20	11.22	10.14	9.38	8.82	8.87	8.36	8.15	7.00	7.09	7.39	9.17
Av. 1914-1920	9.09	8.96	8.92	8.75	8.70	8.73	9.05	9.06	9.13	9.42	10.05	9.76	9.13
1921-22	6.50	6.24	6.32	6.02	5.73	5.68	6.00	6.06	6.99	6.57	6.32	5.93	6.25
1922-23	7.10	6.49	6.57	6.76	6.98	6.79	6.67	6.63	6.56	6.72	6.45	6.34	6.67
1923-24	5.69	5.93	6.31	6.33	6.20	6.18							

NEW YORK—SPRING PATENTS.[2]

1909-10	$6.45	$6.31	$5.62	$5.51	$5.56	$5.63	$5.89	$5.76	$5.82	$5.66	$5.62	$5.42	$5.76
1910-11	6.05	5.78	5.71	5.52	5.33	5.40	5.46	5.25	5.08	5.02	5.23	5.10	5.41
1911-12	5.13	5.36	5.44	5.42	5.45	5.22	5.27	5.43	5.40	5.54	5.88	5.73	5.45
1912-13	5.51	5.37	5.11	4.87	4.80	4.90	4.66	4.70	4.80	4.66	4.89	4.95	4.94
1913-14	4.98	4.98	4.75	4.50	4.52	4.56	4.61	4.76	4.90	4.66	4.72	4.79	4.73
Av. 1909-1913	5.62	5.56	5.33	5.16	5.13	5.08	5.19	5.18	5.20	5.11	5.27	5.20	5.25
1914-15	4.59	5.78	6.09	5.78	5.83	6.02	7.03	7.73	7.41	7.63	7.79	6.50	6.52
1915-16	6.82	6.91	6.44	5.58	5.62	6.10	6.69	6.64	5.99	6.32	6.27	5.78	6.26
1916-17	6.69	7.80	8.36	8.94	9.69	8.99	9.49	9.66	9.80	11.66	14.99	13.69	9.88
1917-18	12.32	12.46	11.69	11.31	10.98	10.86	10.63	10.63	10.94	11.00	10.98	10.98	11.23
1918-19	11.41	11.26	11.07	10.92	10.83	10.98	10.64	10.92	11.27	12.09	12.51	11.92	11.20
1919-20	12.12	12.35	11.73	12.20	13.11	14.25	14.49	13.25	13.07	13.88	14.85	14.20	13.20
1920-21	13.98	13.06	12.82	11.34	9.77	9.12	9.59	8.99	8.82	8.12	8.61	9.07	10.27
Av. 1914-1920	9.61	9.95	9.74	9.44	9.40	9.49	9.79	9.83	9.61	10.10	10.85	10.31	9.89
1921-22	9.09	9.46	8.31	7.50	6.97	6.98	6.85	6.95	7.95	7.90	8.13	7.68	7.82
1922-23	7.69	7.00	6.64	6.85	6.99	6.93	6.69	6.62	6.58	6.79	6.68	6.37	6.82
1923-24	6.07	6.38	6.40	6.36	6.17	6.20							

Division of Statistical and Historical Research.

[1] Compiled from Chicago Board of Trade and Daily Trade Bulletin.
[2] Compiled from New York Journal of Commerce.

TABLE 42.—*Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1923*—Continued.

KANSAS CITY—HARD WINTER PATENTS.[5]

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1909-10	$5.42	$4.72	$4.68	$4.88	$4.68	$4.77	$4.78	$4.78	$4.83	$4.84	$4.84	$4.60	$4.82
1910-11	4.85	4.70	4.70	4.54	4.46	4.46	4.52	4.30	4.20	4.05	4.26	4.18	4.44
1911-12	4.06	4.19	4.30	4.65	4.60	4.54	4.80	4.72	4.69	4.79	4.90	4.90	4.60
1912-13	4.50	4.10	4.10	4.03	3.90	3.86	3.92	3.94	3.88	3.99	4.02	4.15	4.03
1913-14	4.10	4.07	4.19	4.01	3.95	3.95	3.95	3.95	3.98	4.00	4.00	3.98	4.01
Av. 1909-1913	4.59	4.36	4.39	4.42	4.32	4.32	4.39	4.34	4.32	4.33	4.40	4.36	4.38
1914-15	3.58	4.23	5.37	5.08	4.98	5.19	6.24	7.02	6.78	6.80	6.68	5.81	5.65
1915-16	5.58	5.38	4.91	4.90	4.98	5.18	5.75	5.74	5.12	5.20	5.08	4.81	5.22
1916-17	5.14	6.90	7.40	8.08	9.07	8.02	8.82	8.38	9.30	11.91	14.44	12.84	9.19
1917-18	11.95	12.41	10.74	10.50	10.31	10.02	10.10	10.25	10.31	10.31	10.38	10.38	10.64
1918-19	10.59	10.27	10.15	10.14	10.25	9.93	9.83	10.06	10.49	11.94	12.99	12.01	10.72
1919-20	11.11	10.70	10.98	11.56	12.02	13.52	14.08	12.64	12.26	13.09	14.23	13.37	12.46
1920-21	12.98	12.25	11.88	10.69	9.15	8.81	9.06	8.65	8.60	7.54	8.15	7.88	9.64
Av. 1914-1920	8.70	8.88	8.78	8.71	8.68	8.67	9.13	8.96	8.98	9.54	10.28	9.59	9.06
1921-22	7.15	6.61	7.08	6.57	6.05	6.15	6.13	6.85	7.14	7.28	7.44	6.81	6.77
1922-23	6.71	6.02	6.00	6.14	6.38	6.40	6.20	6.20	6.20	6.33	6.21	5.72	6.21
1923-24	5.39	5.59	5.68	5.89	5.68	5.68	------	------	------	------	------	------	------

Division of Statistical and Historical Research.

[5] Compiled from Northwestern Miller, Kansas City Daily Price Current, and Kansas City Grain Market Review.

TABLE 43.—*Bread: Average retail price per pound (baked weight), 1913-1923.*

NEW YORK.

Calendar year.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1913	6.0	6.0	6.0	6.0	6.0	6.2	6.4	6.1	6.0	6.0	6.0	6.1	6.1
1914	6.1	6.1	6.2	6.1	6.1	6.1	6.1	6.4	6.2	6.2	6.3	6.3	6.2
1915	6.4	7.2	6.6	6.6	6.6	6.8	6.9	6.9	6.6	6.6	6.6	6.6	6.7
1916	6.6	6.8	6.6	6.6	6.6	6.6	6.6	6.6	7.1	7.7	7.8	8.1	7.0
1917	8.0	8.1	8.7	8.9	9.8	9.9	9.9	9.9	9.9	9.9	9.9	8.8	9.3
1918	9.1	8.9	8.9	10.0	10.0	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.7
1919	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
1920	10.5	11.1	11.1	11.6	11.8	11.9	11.9	11.9	11.9	11.9	11.9	11.6	11.6
Av. 1914-1920	8.1	8.3	8.3	8.5	8.7	8.7	8.8	8.8	8.8	8.9	8.9	8.8	8.6
1921	11.0	10.7	10.8	10.6	9.9	10.0	10.1	10.2	10.1	10.1	10.0	9.9	10.3
1922	9.8	9.0	8.9	8.9	8.9	9.7	9.7	9.7	9.8	9.8	9.8	9.7	9.5
1923	9.7	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6

CHICAGO.

1913	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
1914	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2	6.2	6.3	6.1
1915	6.4	7.2	7.2	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.6
1916	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	7.3	7.9	8.0	6.8
1917	8.1	8.2	8.2	8.6	9.6	10.5	10.5	10.5	10.5	10.5	10.1	9.0	9.5
1918	9.2	9.6	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1
1919	10.2	10.2	10.2	10.0	10.0	10.0	10.0	10.0	10.6	10.7	10.6	10.7	10.2
1920	10.6	11.6	11.6	11.6	12.3	12.4	12.4	12.4	12.4	12.4	12.4	11.5	12.0
Av. 1914-1920	8.2	8.5	8.6	8.5	8.8	8.9	8.9	8.9	8.9	9.1	9.1	8.9	8.8
1921	11.3	11.3	11.3	11.2	9.9	9.9	9.8	9.8	9.8	9.8	9.8	9.8	10.3
1922	9.9	8.9	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.6
1923	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.8	9.8	9.7	9.7

MINNEAPOLIS.

1913	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
1914	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.9	6.0	6.0	5.7
1915	6.1	6.4	6.4	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3	6.3	6.4
1916	6.3	6.4	6.4	6.4	6.4	6.4	6.5	6.5	7.4	7.4	7.5	7.9	6.8
1917	8.0	8.0	8.0	8.0	9.3	10.5	10.5	10.6	10.5	10.4	10.5	9.7	9.5
1918	8.8	8.8	9.1	9.1	9.0	9.0	8.8	8.8	8.8	8.8	8.8	8.8	8.9
1919	9.2	9.2	9.2	9.2	9.2	9.6	9.6	9.6	9.6	9.6	9.6	9.8	9.4
1920	10.6	10.5	10.4	10.4	10.4	11.1	11.1	11.1	11.1	11.1	11.3	10.3	10.7
Av. 1914-1920	7.8	7.8	7.9	7.9	8.1	8.4	8.4	8.4	8.5	8.5	8.4	8.4	8.2
1921	10.3	10.3	10.3	10.3	9.6	9.6	9.6	9.6	9.6	8.6	8.4	8.4	9.5
1922	8.4	8.4	8.4	8.8	8.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.8
1923	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0

TABLE 43.—*Bread: Average retail price per pound (baked weight), 1913–1923*—Continued.

UNITED STATES (AVERAGE OF LEADING CITIES).

Calendar year.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1913	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
1914	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.3	6.4	6.4	6.4	6.5	6.3
1915	6.8	7.1	7.1	7.1	7.2	7.2	7.1	7.1	7.0	7.0	6.9	6.9	7.0
1916	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.7	8.1	8.4	7.8	7.3
1917	7.9	8.0	8.1	8.4	9.5	9.6	9.9	10.2	9.9	9.9	9.9	9.3	9.2
1918	9.4	9.5	9.6	9.8	9.9	10.0	10.0	9.9	9.9	9.8	9.8	9.8	9.8
1919	9.8	9.8	9.8	9.8	9.8	9.9	10.0	10.1	10.1	10.1	10.2	10.2	10.0
1920	10.9	11.1	11.2	11.2	11.5	11.8	11.9	11.9	11.9	11.8	11.6	10.8	11.5
Av. 1914–1920	8.3	8.4	8.4	8.5	8.7	8.8	8.9	8.9	9.0	9.0	9.0	8.8	8.7
1921	10.8	10.6	10.5	10.3	9.9	9.8	9.7	9.7	9.6	9.5	9.3	9.1	9.9
1922	8.8	8.6	8.7	8.7	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.6	8.7
1923	8.7	8.7	8.7	8.7	8.7	8.7	8.8	8.7	8.7	8.7	8.7	8.7	8.7

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 44.—*Daily milling capacity, flour output, wheat milled and wheat production, by States.*

State.	Daily capacity.[1]		Output.[2]		Wheat ground.[2]		Wheat production.[3]		Wheat ground as a percentage of wheat production.	
	Jan. 1, 1920.	Jan. 1, 1923.	1919	1921	1919	1921	1919	1921	1919	1921
	Barrels.	*Barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*P. ct.*	*P. ct.*
Alabama	1,235	600	48	3	210	16	306	210	69	8
Arizona	925	825	150	132	669	619	950	840	70	74
Arkansas	7,235	7,200	355	180	1,644	887	2,432	958	68	93
California	17,525	16,475	3,383	1,974	15,701	9,582	16,848	8,355	93	115
Colorado	11,975	12,300	1,481	1,481	6,943	6,645	18,196	23,239	38	29
Delaware	1,975	1,700	111	90	576	455	1,512	1,300	38	35
Georgia	5,575	5,550	491	542	2,209	2,468	1,480	1,449	149	170
Idaho	9,625	9,850	1,105	787	5,119	3,676	20,775	26,952	25	14
Illinois	55,250	49,300	7,202	5,215	33,430	23,992	70,170	46,822	48	51
Indiana	48,650	46,200	4,305	3,254	20,042	15,749	41,751	24,192	48	65
Iowa	22,750	22,650	1,252	912	5,925	4,898	21,245	9,944	28	49
Kansas	85,800	96,300	16,157	17,337	73,942	82,300	160,276	128,695	46	64
Kentucky	28,725	26,550	2,690	2,033	12,450	9,490	9,660	6,340	129	150
Maryland	12,025	11,975	1,282	936	5,706	4,153	8,964	8,260	64	54
Michigan	36,775	30,925	2,537	2,122	12,021	10,119	20,445	14,840	59	68
Minnesota	178,825	182,875	28,505	23,733	130,865	111,620	35,731	22,938	366	487
Missouri	91,275	99,600	7,132	6,270	32,739	28,945	61,568	34,952	53	83
Montana	13,875	13,850	1,272	1,276	5,730	5,634	9,889	33,430	58	17
Nebraska	25,850	26,275	3,416	2,342	15,947	11,151	60,675	59,875	26	19
Nevada	725	900	88	17	397	83	466	493	85	17
New Jersey	2,925	2,925	123	145	594	727	1,530	1,539	39	47
New Mexico	1,625	1,175	94	72	454	357	2,676	3,088	17	12
New York	60,900	59,875	9,983	8,394	43,337	37,880	9,753	9,137	444	415
North Carolina	12,425	15,100	1,315	1,341	6,228	6,580	5,570	4,500	112	146
North Dakota	17,375	17,425	2,225	1,994	10,089	9,427	62,776	80,750	16	12
Ohio	64,875	60,150	5,790	3,844	27,348	18,514	58,196	30,185	47	61
Oklahoma	20,850	22,250	3,464	2,781	15,787	12,705	66,052	47,325	24	27
Oregon	26,100	28,400	3,342	2,528	14,991	11,538	20,739	25,304	72	45
Pennsylvania	37,825	38,950	3,318	3,007	15,947	14,801	24,898	23,850	64	62
South Carolina	1,125	1,000	50	62	299	313	1,250	1,298	22	42
South Dakota	9,865	6,500	630	354	3,005	1,764	31,793	25,980	9	7
Tennessee	31,850	30,025	3,085	2,233	13,122	10,794	6,370	4,500	206	240
Texas	33,950	36,625	4,584	4,009	21,338	18,541	40,178	20,810	53	89
Utah	9,425	12,075	545	742	2,687	3,478	4,130	6,299	65	55
Virginia	21,700	24,025	2,208	1,761	10,468	8,373	11,694	8,301	90	101
Washington	36,475	36,900	5,911	4,470	26,836	21,021	41,888	58,245	64	36
West Virginia	10,000	10,725	586	376	2,928	1,678	4,023	3,125	73	54
Wisconsin	26,100	27,850	2,809	1,702	13,337	7,968	7,568	2,812	176	284
Wyoming	2,800	2,575	104	217	487	1,003	2,613	3,316	19	30
Other	200	1,150	213	178	1,015	880	942	397	108	222
Total U. S.	1,084,985	1,098,100	122,466	110,846	612,562	521,234	967,979	814,905	63	64

Division of Statistical and Historical Research.

[1] Miller's Almanack, 1923, page 192. Does not include a few minor States.

[2] Census of Manufactures, 1921.—Flour-Mill Products and Bread and Other Bakery Products. Includes merchant mills only. Calendar years.

[3] Division of Crop and Livestock Estimates. Department of Agriculture Yearbooks, 1921 and 1922.

TABLE 45.—*Rye: Acreage, production, value, exports, etc., in the United States, 1869–1923.*

Calendar year.	Acreage harvested.	Average yield per acre.	Production	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago cash price per bushel No. 2.[2]				Domestic exports including rye flour, fiscal year beginning July 1.[3]
							December.		Following May.		
							Low.	High.	Low.	High.	
	1,000 acres.	*Bush. of 56 lbs.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*
1869	1,658	13.6	22,538	77.0	17,342	10.46	66	77½	78	88½	199,450
1870	1,176	13.2	15,474	73.2	11,327	9.63	67	74	81	91	852,689
1871	1,070	14.4	15,366	71.1	10,928	10.21	62	63½	75	93	611,749
1872	1,049	14.2	14,889	67.6	10,071	9.60	57½	70	66½	70	611,749
1873	1,150	13.2	15,142	70.3	10,638	9.25	70	81	91	102	1,923,404
1874	1,117	13.4	14,991	77.4	11,610	10.39	93	99½	103	107½	267,058
1875	1,360	13.0	17,722	67.1	11,894	8.75	67	68½	61½	70½	589,150
1876	1,466	13.9	20,375	61.4	12,505	8.52	65½	73	70	92½	2,234,856
1877	1,418	15.0	21,170	57.6	12,202	8.64	55½	56½	54	60	4,249,684
1878	1,623	15.9	25,843	52.5	13,566	8.36	44	44½	47	52	4,877,821
1879	*1,848*	13.7	25,201	67.6	17,040	9.25	73½	81	85½	85	2,943,894
1880	1,768	13.9	24,541	75.6	18,565	10.50	82	91½	115	118	1,955,155
1881	1,789	11.6	20,705	92.3	19,327	10.80	96½	98	77	83	1,003,609
1882	2,228	13.4	29,960	61.5	18,439	8.28	57	66½	62	67	2,206,212
1883	2,315	12.1	28,059	58.1	16,301	7.04	56½	60	60½	62½	6,247,590
1884	2,344	12.2	28,640	51.9	14,857	6.34	51	52	68	73	2,974,390
1885	2,129	10.2	21,756	57.9	12,595	5.92	58½	61	58	61	216,699
1886	2,130	11.5	24,489	53.8	13,181	6.19	53	54½	54½	56½	377,302
1887	2,058	10.1	20,698	54.5	11,283	5.50	55½	61½	63	68	94,827
1888	2,365	12.0	28,415	58.8	16,722	7.07	50	52	39	41½	309,266
1889	*2,179*	13.1	28,378	42.3	11,991	5.52	44	45½	49½	54	2,280,975
1890	2,184	12.1	26,414	62.6	16,536	7.57	64½	68½	83	92	358,263
1891	2,284	14.7	32,761	77.1	25,264	11.31	86	92	70½	79	12,068,628
1892	2,251	13.0	29,253	53.6	15,674	6.96	46	51	50½	62	1,493,924
1893	2,178	13.1	28,592	50.2	14,360	6.59	45	47½	44½	48	249,152
1894	2,164	13.7	29,613	49.4	14,622	6.76	47½	49	62½	67	33,045
1895	2,153	14.5	31,139	42.2	13,151	6.11	32	35½	33	36½	1,011,128
1896	2,128	13.6	28,913	38.8	11,231	5.28	37	42½	32½	35½	8,575,663
1897	2,077	16.1	33,433	43.2	14,454	6.96	45½	47	48	75	15,562,935
1898	2,071	15.9	32,888	44.5	14,640	7.07	52½	55½	56½	62	10,169,822
1899	*2,054*	14.8	30,334	49.6	15,046	7.33	49	52	53	56½	2,382,012
1900	2,042	16.1	30,791	49.8	15,341	7.51	45½	49½	51½	54	2,345,512
1901	2,033	15.3	31,103	55.4	17,220	8.47	59	65½	54½	58	2,712,077
1902	2,051	17.2	35,255	50.5	17,798	8.68	46	49½	48	50½	5,445,273
1903	2,074	15.4	31,990	54.0	17,272	8.33	50½	52½	69½	78	784,068
1904	2,065	15.3	31,605	68.9	21,923	10.51	73	75	70	84	29,749
1905	2,141	16.4	35,168	60.4	21,241	9.92	64	68	58	62	1,387,926
1906	2,186	16.7	36,559	58.5	21,381	9.78	61	65	69	87½	760,717
1907	2,167	16.4	35,455	72.5	25,709	11.86	75	82	79	86	2,444,888
1908	2,175	16.4	35,768	72.8	26,023	11.96	75	77½	83	90	1,295,701
1909	*2,196*	16.1	35,406	72.2	25,548	11.63	72	80	74	80	242,262
1910	2,185	16.0	34,897	71.5	24,953	11.42	80	82	90	113	40,123
1911	2,127	15.6	33,119	83.2	27,557	12.96	91	94	90	95½	31,884
1912	2,117	16.8	35,604	66.3	23,636	11.16	56	64	60	64	1,854,738
1913	2,557	16.2	41,381	63.4	26,220	10.25	61	65	62	67	2,272,492
Av. 1909–1913	2,236	16.1	36,003	70.9	25,583	11.44	72.4	77.0	75.2	83.9	888,200
1914	2,541	16.8	42,779	86.5	37,018	14.57	107½	112½	115	122	13,626,778
1915	3,129	17.3	54,050	83.4	45,063	14.41	94½	98½	90½	99½	15,250,151
1916	3,213	15.2	48,862	122.1	59,676	18.57	130	151	200	240	13,703,499
1917	4,317	14.6	62,933	166.0	104,447	24.19	179	185	180	260	17,196,417
1918	6,391	14.2	91,041	151.6	138,038	21.60	154	164	145½	173	36,467,430
1919	6,307	12.0	75,483	133.2	100,573	15.95	150	152	198	220	41,530,961
1920	4,409	13.7	60,490	126.8	76,693	17.39	144	167	185½	167	47,887,466
Av. 1914–1920	4,380	14.4	62,234	128.9	80,218	18.53	138.4	151.3	152.9	184.4	26,357,532
1921	4,528	13.5	61,675	99.7	43,014	9.50	84	99	97½	111	29,943,852
1922	6,372	15.5	103,362	68.5	70,841	10.62	83½	92½	72	83	51,662,968
1923[4]	5,157	12.3	63,928	64.7	40,894	7.91	66½	72½			

Division of Crop and Livestock Estimates; figures in *italics* are census returns.

[1] Based on farm price December 1.

[2] Chicago Daily Trade Bulletin.

[3] Compiled from reports of Bureau of Foreign and Domestic Commerce.

[4] Preliminary.

TABLE 46.—*Rye: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Massachusetts	2	3	3	30	57	54	52	90	72
Connecticut	5	5	5	95	100	90	142	150	112
New York	52	55	58	806	880	945	798	854	860
New Jersey	57	61	65	998	1,159	1,157	1,018	985	1,088
Pennsylvania	200	220	215	3,290	3,740	3,655	3,040	3,264	3,326
Delaware	4	6	6	44	85	86	44	89	83
Maryland	17	17	17	238	268	269	279	284	261
Virginia	38	40	42	418	460	504	397	414	539
West Virginia	10	10	10	120	120	100	114	114	103
North Carolina	39	60	58	273	480	603	341	576	814
South Carolina	5	6	7	50	60	74	125	108	128
Georgia	12	18	20	108	171	180	189	231	342
Ohio	83	87	84	1,079	1,235	1,302	906	1,025	1,016
Indiana	306	330	299	3,978	4,200	4,186	2,904	3,318	3,056
Illinois	197	256	230	3,349	4,096	3,450	2,079	3,072	2,588
Michigan	642	642	467	8,346	8,218	6,538	5,842	6,246	4,054
Wisconsin	371	489	342	5,046	7,139	5,062	3,583	5,140	3,290
Minnesota	640	1,154	912	11,260	21,926	12,312	6,944	14,910	6,525
Iowa	35	55	54	564	1,064	923	412	759	669
Missouri	30	28	26	336	336	325	289	312	286
North Dakota	930	1,800	1,288	10,230	28,980	10,046	5,933	17,388	4,322
South Dakota	191	506	304	3,056	9,108	3,496	1,772	5,283	1,713
Nebraska	151	188	132	1,918	2,100	1,584	1,151	1,369	887
Kansas	101	71	41	1,141	788	348	776	552	261
Kentucky	18	20	20	180	230	234	202	253	241
Tennessee	19	20	20	152	180	200	205	214	232
Alabama	1	1	1	12	5	12	19	8	19
Texas	13	13	17	156	117	204	156	146	200
Oklahoma	34	35	37	408	350	444	269	280	409
Arkansas	1	1	1	9	12	9	12	12	11
Montana	116	240	192	1,209	3,360	2,112	688	1,814	1,077
Wyoming	24	35	24	504	490	312	292	255	296
Colorado	92	97	73	1,058	873	876	635	576	491
New Mexico	5	2	2	70	10	24	49	10	22
Utah	15	12	11	140	120	125	98	72	112
Idaho	12	13	14	216	195	266	151	131	181
Washington	21	19	23	294	190	361	191	180	269
Oregon	39	37	37	564	444	555	377	377	516
United States	4,528	6,672	5,157	61,675	103,362	63,023	43,014	70,841	40,904

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 47.—*Rye: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Massachusetts	16.5	16.2	17.0	16.0	18.5	18.5	17.2	19.0	20.0	18.5	19.0	20.0	23.0	18.0	19.6	15.0	19.0	18.0
Connecticut	18.5	18.7	20.0	18.5	17.5	19.3	18.8	19.0	21.5	19.6	20.5	22.0	20.0	18.0	20.1	19.0	20.0	18.0
New York	16.5	17.0	18.3	16.7	16.5	17.2	17.1	17.7	18.7	18.0	19.0	16.5	16.0	17.5	17.6	15.5	16.0	16.3
New Jersey	16.2	16.3	18.0	16.4	17.5	18.0	17.2	18.5	20.0	19.0	18.5	18.5	16.0	17.5	18.3	17.5	19.0	17.8
Pennsylvania	16.5	15.3	17.0	15.1	17.5	17.5	16.5	18.0	18.0	17.0	17.0	17.0	16.0	16.0	17.0	16.0	17.0	17.0
Delaware	15.5	14.0	15.5	15.0	14.0	14.0	14.5	17.5	15.5	15.0	16.0	14.5	13.0	15.0	15.2	11.0	14.1	14.4
Maryland	15.0	14.1	16.1	14.5	15.5	14.4	14.9	17.0	16.5	15.5	16.0	15.0	14.0	15.4	15.6	14.0	15.2	15.8
Virginia	12.5	12.3	13.5	11.5	12.5	12.3	12.4	13.0	14.5	12.5	15.0	12.0	11.5	12.0	12.9	11.0	11.5	12.0
West Virginia	13.0	13.5	12.9	11.0	13.0	13.5	12.8	14.5	14.0	16.0	13.5	13.7	13.0	11.0	13.7	12.0	12.0	10.0
North Carolina	8.9	9.4	10.0	10.0	9.3	10.3	9.8	10.0	11.5	9.7	10.0	9.0	8.9	9.5	9.8	7.0	8.0	10.4
South Carolina	9.6	9.8	10.0	10.0	9.5	10.5	10.0	11.5	10.0	9.8	10.0	11.2	10.0	11.0	10.5	10.0	10.0	10.5
Georgia	8.7	9.0	10.4	9.5	9.2	9.5	9.5	9.3	9.2	9.5	8.3	8.8	8.9	10.0	9.1	9.0	9.5	9.0
Ohio	16.5	17.2	16.5	15.5	15.5	16.5	16.2	17.0	17.5	14.5	18.0	17.0	16.0	14.4	16.3	13.0	14.2	15.5
Indiana	15.0	16.5	15.8	13.7	14.5	15.2	15.1	16.3	16.0	14.0	15.0	16.5	14.0	14.0	15.1	13.0	12.0	14.0
Illinois	17.1	17.8	17.4	16.8	16.0	16.5	16.9	16.0	18.5	15.5	17.5	19.0	16.5	15.6	16.9	17.0	16.0	15.0
Michigan	15.5	15.5	15.3	14.6	13.3	14.3	14.6	16.0	15.5	14.3	14.0	14.3	13.3	14.7	14.6	13.0	12.8	14.0
Wisconsin	19.0	16.3	16.0	17.0	18.3	17.5	17.0	16.5	18.5	16.2	18.5	17.6	15.8	16.0	17.0	13.6	14.6	14.8
Minnesota	18.5	19.0	17.0	18.7	23.0	19.0	19.3	18.8	19.5	15.0	18.5	20.0	15.0	17.0	17.7	17.5	19.0	13.5
Iowa	20.0	17.8	18.5	18.0	19.0	18.2	18.3	19.0	18.5	17.0	18.0	19.0	15.9	17.0	17.8	16.1	19.7	17.1
Missouri	12.8	15.0	15.0	14.1	14.8	15.0	14.8	14.0	13.5	11.0	14.7	14.0	12.0	12.0	13.0	11.2	12.0	12.5
North Dakota	18.0	18.4	8.5	16.6	18.0	14.4	15.2	17.1	15.0	13.3	9.5	10.5	8.0	10.0	11.9	11.0	16.1	7.8
South Dakota	17.5	17.5	17.0	10.0	19.5	13.2	15.4	17.0	19.5	18.0	16.0	18.0	13.0	13.5	16.4	16.0	18.0	11.5
Nebraska	16.0	16.5	16.0	13.0	16.0	14.5	15.2	16.0	17.5	16.0	15.6	12.9	16.3	14.1	15.5	12.7	11.2	12.0
Kansas	13.3	14.2	14.0	11.0	15.9	14.0	13.8	20.0	16.0	14.5	14.0	14.3	11.0	13.0	14.7	11.3	11.1	8.5
Kentucky	13.5	12.7	13.0	12.0	13.0	12.4	12.6	13.7	12.0	11.2	12.5	13.6	12.0	12.0	12.4	10.0	11.5	11.7
Tennessee	12.5	10.7	11.0	11.9	11.5	12.0	11.4	13.0	10.5	10.0	9.8	10.0	8.0	9.0	10.0	8.0	9.0	10.0
Alabama	10.0	11.3	12.0	10.0	11.5	11.0	11.2	13.0	10.0	13.0	9.5	11.0	9.5	10.9	11.0	12.0	5.0	12.0
Texas	15.5	11.2	11.5	10.0	16.6	15.0	12.9	14.8	17.0	10.0	10.0	5.4	17.0	16.0	12.9	12.0	9.0	12.0
Oklahoma	13.5	13.5	13.7	9.5	12.0	9.5	11.6	16.0	13.5	10.0	10.0	11.0	14.0	15.0	12.8	12.0	10.0	12.0
Arkansas	10.0	10.5	12.9	10.0	10.5	11.5	10.9	10.5	10.5	10.0	13.5	10.5	9.5	10.0	10.6	9.0	12.0	9.0
Montana	20.0	29.0	20.0	23.0	28.5	21.0	23.3	21.0	22.5	20.5	12.7	12.0	3.0	8.0	14.2	11.2	14.0	11.0
Wyoming	22.0	26.0	18.5	20.0	19.0	19.0	20.5	17.0	20.0	15.5	14.0	18.0	9.0	18.0	15.9	21.0	14.0	13.0
Colorado	15.5	22.0	14.0	12.0	19.5	17.0	16.9	17.5	17.5	14.0	16.0	7.0	8.8	11.8	13.2	11.5	9.0	12.0
New Mexico	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	14.0	4.8	12.0
Utah	15.5	22.0	18.5	15.5	15.0	17.0	17.6	17.5	15.5	12.0	8.0	13.0	7.0	8.3	11.6	9.3	10.0	11.4
Idaho	20.0	21.5	20.0	22.5	22.0	22.0	21.6	20.0	20.0	17.0	15.5	15.0	14.0	14.0	16.5	18.0	15.0	19.0
Washington	19.5	21.0	20.5	22.0	20.0	21.0	20.9	19.7	18.2	14.5	12.7	10.0	12.0	9.5	13.8	14.0	10.0	15.7
Oregon	18.0	17.0	15.1	19.5	16.0	17.5	17.0	16.0	18.0	17.0	12.7	11.0	8.4	12.0	13.6	14.2	12.0	15.0
United States	16.4	16.1	16.0	15.6	16.8	16.2	16.1	16.8	17.3	15.2	14.6	14.2	12.0	13.7	14.8	13.6	15.5	12.2

Division of Crop and Livestock Estimates.

TABLE 48.—*Rye: Condition of crop, United States, 1st of month, and yield per acre, calendar years, 1866–1925.*

Year.	December of previous year.	Apr.	May	June.	July.[1]	Yield per acre.	Year.	December of previous year.	Apr.	May.	June.	July.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1866	-------	-------	-------	87.8	93.7	13.5	1901	99.1	93.1	94.6	93.9	93.0	15.3
1867	103.5	-------	-------	117.6	115.6	13.7	1902	89.9	85.4	83.4	88.1	90.2	17.2
1868	97.8	-------	-------	103.0	104.1	13.6	1903	98.1	97.9	93.3	90.6	89.5	15.4
1869	100.2	-------	-------	101.9	103.9	13.6	1904	92.7	82.3	81.2	86.3	88.9	15.3
1870	99.4	-------	-------	90.8	91.8	13.2	1905	90.5	92.1	93.5	94.0	93.2	16.4
1871	102.2	-------	-------	102.7	102.3	14.4	1906	95.4	90.9	92.9	89.9	91.3	16.7
1872	94.7	-------	-------	88.0	95.0	14.2	1907	96.2	92.0	88.0	88.1	89.7	16.4
1873	99.5	-------	-------	95.6	95.2	13.2	1908	91.4	89.1	90.3	91.3	91.2	16.4
1874	99.9	-------	-------	97.6	99.3	13.4							
1875	101.9	-------	-------	87.7	92.2	13.0	1909	87.6	87.2	88.1	89.6	91.4	16.1
							1910	94.1	92.3	91.3	90.6	87.5	16.0
1876	99.0	-------	-------	94.8	97.6	13.9	1911	92.6	89.3	90.0	88.6	85.0	15.6
1877	-------	-------	-------	101.1	103.3	15.0	1912	93.3	87.9	87.5	87.7	88.2	16.8
1878	-------	-------	-------	102.0	101.0	15.9	1913	93.5	89.3	91.0	90.9	88.6	16.2
1879	-------	96.0	-------	91.0	92.3	13.7							
1880	99.3	97.6	-------	95.0	93.4	13.9	Aver.	92.2	89.2	89.6	89.5	88.1	16.1
1881	98.5	97.0	-------	93.0	95.2	11.6	1914	95.3	91.3	93.4	93.6	92.9	16.8
1882	-------	100.0	96.0	99.8	99.9	13.4							
1883	99.5	93.1	95.3	95.2	97.3	12.1	1915	93.6	89.5	93.3	92.0	92.0	17.3
1884	100.3	98.0	96.0	97.0	97.0	12.2	1916	91.5	87.8	88.7	86.9	87.0	15.2
1885	94.9	86.5	86.0	83.0	87.0	10.2	1917	88.8	86.0	88.8	84.3	79.4	14.6
							1918	84.1	85.8	85.8	83.6	80.8	14.2
1886	-------	96.0	95.7	94.4	95.6	11.5	1919	89.0	90.6	95.4	93.5	85.7	12.0
1887	95.1	92.0	90.8	88.9	88.0	10.1							
1888	96.0	93.5	92.9	93.9	95.1	12.0	1920	89.8	86.8	85.1	84.4	83.5	13.7
1889	97.2	93.9	96.5	95.2	96.7	13.1							
1890	96.4	92.8	93.5	92.3	92.0	12.1	Aver.	90.3	88.3	90.1	88.3	85.9	14.8
1891	99.0	95.4	97.2	95.4	97.0	14.7	1921	90.5	90.3	92.5	90.3	86.9	13.6
1892	88.8	87.0	88.9	91.0	92.9	13.0	1922	92.2	89.0	91.7	92.5	89.9	15.5
1893	89.4	85.7	82.7	84.6	83.8	13.1	1923	84.3	81.8	85.1	81.1	75.0	12.2
1894	94.6	94.4	90.7	93.2	93.9	13.7	1924	89.9	-------	-------	-------	-------	-------
1895	96.2	87.0	88.7	85.7	82.2	14.5							
1896	94.9	82.9	87.7	85.2	83.8	13.6							
1897	99.8	88.9	88.0	89.9	95.0	16.1							
1898	91.0	92.1	94.5	97.1	98.8	15.9							
1899	98.9	84.9	85.2	84.5	85.6	14.8							
1900	98.2	84.8	88.5	87.6	80.4	15.1							

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 40.—*Rye: Acreage and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Acreage.					Yield per acre.				
	Average 1909–1913.	1920	1921	1922	1923, preliminary.	Average 1909–1913.	1920	1921	1922	1923, preliminary
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Canada	117	650	1,842	2,105	1,448	17.9	17.4	11.6	15.4	18.6
United States	2,236	4,409	4,528	6,672	5,137	16.1	13.7	13.6	15.5	12.2
Total comparable 1923	2,353	5,059	6,370	8,777	6,585					
EUROPE.										
Ireland	8	6	6	7	.....	29.9	22.7	23.5	25.6	.....
Norway	37	35	36	30	30	26.3	26.9	29.0	28.7	27.7
Sweden	977	914	913	872	869	25.5	24.5	29.1	25.9	29.2
Denmark	[1,2] 607	560	559	547	574	[1] 27.1	23.6	21.8	26.1	.....
Netherlands	557	492	499	530	515	29.5	30.1	36.0	34.3	29.9
Belgium	648	523	559	531	558	35.3	34.7	38.1	34.6	35.0
Luxemburg	26	19	21	20	20	25.0	17.8	21.0	12.5	20.4
France	[2] 2,060	2,148	2,227	2,195	2,171	16.3	16.1	19.9	17.5	17.0
Spain	1,998	1,799	1,796	1,757	1,801	13.9	15.5	15.7	14.9	15.6
Portugal	[1] 271	532	572	665	665	.....	9.7	8.0	8.0	8.1
Italy	[2] 303	[2] 282	[2] 287	320	311	17.6	16.1	22.7	17.4	20.7
Switzerland	50	50	57	48	48	29.7	32.4	27.4	31.0	34.3
Germany	[2] 15,387	10,589	10,539	10,296	10,785	28.9	18.3	25.4	20.5	26.2
Austria	[3] 5,019	714	758	824	921	22.0	14.1	17.4	16.3	17.0
Czechoslovakia	.....	2,238	2,181	2,174	2,125	.....	14.7	24.6	23.5	24.4
Hungary	[2] 2,749	1,475	1,841	1,663	1,650	18.6	13.9	17.3	15.1	19.5
Yugoslavia	[1,4] 124	489	461	496	395	[1] 13.0	12.5	12.6	9.1	15.0
Greece	[1] 13	78	.....	.....	.....	[1] 16.8	14.2	.....	.....	.....
Bulgaria	[2] 533	494	466	442	457	15.9	13.5	13.1	16.9	18.3
Rumania	[5] 883	780	807	660	680	14.7	12.1	11.3	14.0	15.7
Poland	[6] (8,077)	7,236	8,866	11,225	11,380	15.6	10.2	18.9	17.6	22.6
Lithuania	[6] (1,259)	1,227	1,246	1,369	1,442	14.6	13.6	16.9	17.7	17.3
Latvia	[5] (770)	486	561	590	660	15.5	9.6	17.5	11.6	16.7
Esthonia	[5] (365)	351	353	392	388	18.4	17.6	16.7	14.8	17.6
Finland	589	576	606	578	583	17.8	12.8	17.1	13.5	16.2
Russia, including Ukraine and Northern Caucasia	[6] (59,390)	.....	.....	44,482	.....	12.1	.....	.....	10.6	.....
Total comparable 1909–1913	103,546	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total comparable 1923	44,129	33,980	35,704	38,145	38,998	.....	.....	.....	.....	.....
AFRICA AND ASIA.										
Algeria	3	(7)	(7)	(7)	1	.....	.....	.....	.....	.....
Russia (Asiatic)	3,309	.....	.....	1,649	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere, comparable 1909–1913	109,211	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere, comparable 1923	46,482	39,039	42,074	46,922	45,603	.....	.....	.....	.....	.....

SOUTHERN HEMISPHERE.

Country.	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24
Chile	5	4	3	3	3	22.2	18.5	19.3	21.0	.....
Uruguay	(7)	(7)	(7)	(7)	(7)	.....	.....	.....	.....	.....
Argentina	85	218	242	215	315	[6] 14.1	3.8	7.0	10.0	11.7
Union of South Africa	[1] 108	133	.....	.....	.....	[1] 6.7	5.9	.....	.....	.....
Australia	9	6	4	.....	.....	12.7	13.5	12.5	.....	.....
New Zealand	[1] 4	1	1	1	.....	[1] 28.5	16.0	32.0	18.0	.....
Total comparable 1909–1913	211	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total comparable 1923	90	222	245	218	318	.....	.....	.....	.....	.....
World total comparable 1909–1913	109,422	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable 1923	46,572	39,261	42,319	47,140	45,921	.....	.....	.....	.....	.....

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[1] One year only. [2] Old boundaries. [3] Three-year average. [4] Former Kingdom of Serbia.
[5] Includes Bessarabia. [6] Preliminary estimate for former Russian territory within 1923 boundaries.
[7] Less than 500. [8] Four-year average.

TABLE 50.—*Rye: Production in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Production.							
	Average, 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	2,694	3,857	8,504	16,207	11,306	21,455	32,373	20,937
United States	36,093	62,933	91,041	75,453	60,690	61,675	103,362	63,022
Total comparable 1923	38,787	66,790	99,545	85,660	71,796	83,130	135,735	89,959
EUROPE.								
Ireland	239	228	242	143	136	141	179	.....
Norway	974	1,159	1,012	963	970	1,048	862	832
Sweden	24,909	18,994	19,292	23,607	22,434	26,558	22,628	25,253
Denmark	[1] 17,772	[1] 8,870	[1] 12,726	[1] 14,908	13,242	12,204	14,284	.....
Netherlands	16,422	13,261	13,022	14,714	14,795	17,987	17,140	15,393
Belgium	22,347	5,650	5,445	14,505	18,168	21,278	18,384	19,538
Luxemburg	651	266	387	368	338	441	250	409
France	[1] 49,025	[2] 25,660	[2] 30,109	[2] 30,577	34,492	44,392	38,472	36,914
Spain	27,686	24,208	30,445	23,296	27,830	28,118	26,252	28,075
Portugal	.....	3,548	4,838	3,856	5,154	4,564	5,204	5,372
Italy	[1] 5,329	[1] 4,460	[1] 5,232	[1] 4,571	[1] 4,539	[3] 6,519	5,563	6,449
Switzerland	1,783	1,283	1,627	1,747	1,622	1,559	1,188	1,045
Germany	[1] 445,222	[4] 278,677	[4] 262,832	[4] 240,161	194,255	207,648	209,519	282,452
Austria	[1] 110,213	10,922	10,604	9,035	10,098	13,161	13,389	15,034
Czechoslovakia	.....	.....	.....	.....	32,941	53,735	51,097	51,813
Hungary	[1] 51,051	.....	.....	.....	20,564	23,177	25,147	32,111
Yugoslavia	[5] [6] 1,613	.....	.....	.....	6,991	5,816	4,523	5,913
Greece	[7] 219	695	1,012	1,123	1,035	.....	.....	.....
Bulgaria	[1] 8,290	5,379	4,318	6,141	6,277	6,095	7,453	8,480
Rumania	[8] 12,277	.....	1,694	10,046	9,445	9,081	9,206	10,196
Poland	[9] (125,760)	.....	.....	.....	73,659	167,558	197,372	257,545
Lithuania	[9] (18,382)	.....	.....	17,273	16,088	21,047	24,249	24,924
Latvia	[9] (11,897)	.....	.....	.....	4,689	9,806	6,845	10,992
Esthonia	[9] (6,732)	.....	.....	5,058	6,165	5,908	5,797	6,847
Finland	10,490	8,914	8,648	8,656	7,098	10,385	7,775	9,446
Russia, including Ukraine and Northern Caucasia	[9] (718,905)	.....	.....	.....	.....	.....	473,382	.....
Total comparable 1909–1913	1,698,589	.....	.....	.....	.....	.....	.....	.....
Total comparable 1923	.....	.....	.....	.....	518,312	745,871	698,845	856,394
AFRICA AND ASIA.								
Algeria	39	3	6	5	4	5	4	17
Russia, Asiatic	32,677	.....	.....	.....	.....	.....	16,634	.....
Total comparable 1909–1913	32,716	.....	.....	.....	.....	.....	16,638	.....
Total comparable 1923	39	3	6	5	4	5	4	17
Total Northern Hemisphere comparable 1909–1913	1,759,472	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere, comparable 1923	.....	.....	.....	.....	590,112	829,006	834,584	946,311

SOUTHERN HEMISPHERE.

Country.	Average, 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
Chile	111	176	53	53	74	58	63	.....
Uruguay	[10] 2	1	1	[11]	[11]	[11]	.....	.....
Argentina	[10] 1,399	.....	.....	868	821	1,692	2,147	3,701
Union of South Africa	[7] 724	931	.....	596	788	677	.....	.....
Australia	114	49	35	35	61	50	.....	.....
New Zealand	[7] 114	.....	.....	.....	16	32	16	.....
Total comparable 1909–1913	2,464	.....	.....	.....	.....	.....	.....	.....
Total comparable 1923	1,399	.....	.....	868	821	1,692	2,147	3,701
World total comparable 1909–1913	1,761,936	.....	.....	.....	.....	.....	.....	.....
World total comparable 1923	.....	.....	.....	.....	590,933	830,698	836,731	950,012

Division of Statistical and Historical Research.

Official sources and International Institute of Agriculture unless otherwise stated. Parentheses denote interpolated figures. Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Old boundaries.
[2] Includes production in Alsace-Lorraine.
[3] Includes 886,000 bushels grown in Venezia Tridentina and Venezia Giulia.
[4] Excludes production in Alsace-Lorraine.
[5] Three-year average.
[6] Former Kingdom of Serbia.
[7] One year only.
[8] Includes Bessarabia.
[9] Preliminary estimate for former Russian territory within 1923 boundaries.
[10] Four-year average.
[11] Less than 500 bushels.

TABLE 51.—*Rye: World production, 1894–1923.*

Year.	Production in countries reporting all years 1894–1923.	Production as reported.	Estimated world totals preliminary.	Selected countries.			
				Russian Empire.[1]	Germany.	Austria.	France.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1894	598,680	1,615,256	1,630,057	931,156	328,447	82,872	74,926
1895	555,603	1,407,233	1,422,636	772,711	304,113	64,889	71,833
1896	599,039	1,472,457	1,492,092	789,562	335,967	73,781	69,766
1897	553,480	1,277,277	1,289,029	654,281	321,656	63,051	47,737
1898	623,328	1,437,887	1,450,476	737,501	355,577	79,686	66,921
1899	607,429	1,595,285	1,607,186	911,633	341,547	85,267	67,223
1900	574,361	1,563,841	1,579,937	920,134	336,621	54,792	59,397
1901	584,998	1,412,160	1,431,740	754,927	321,346	75,514	58,386
1902	620,234	1,619,875	1,638,557	919,019	373,764	82,481	45,660
1903	654,390	1,653,933	1,665,588	911,944	389,919	81,129	58,127
1904	656,528	1,744,083	1,750,938	1,008,440	396,071	91,684	52,669
1905	668,874	1,499,862	1,507,134	737,443	378,200	98,185	58,586
1906	669,999	1,429,513	1,440,852	667,605	378,945	99,245	50,888
1907	659,599	1,541,662	1,553,063	815,086	384,146	86,451	56,462
1908	725,304	1,597,515	1,605,055	790,098	422,688	113,308	51,691
1909	765,781	1,758,609	1,762,744	903,622	446,763	114,433	55,689
1910	701,725	1,676,414	1,680,193	875,135	413,802	108,938	43,883
1911	714,883	1,579,536	1,582,591	768,650	427,776	104,114	46,749
1912	747,850	1,898,177	1,900,437	1,050,837	456,600	117,112	48,746
1913	779,699	1,889,313	1,892,513	1,011,316	481,169	106,469	50,055
1914	670,362	1,618,879	1,624,341	[2] 869,657	410,478	74,555	43,884
1915	591,387	1,585,620	1,590,294	[2] 909,943	360,310	60,674	33,148
1916	561,476	593,750	1,494,975	----------	351,826	50,233	33,351
1917	439,541	470,433	1,226,503	----------	[3] 274,677	[3] 10,922	[3] 25,669
1918	471,435	513,509	1,170,187	----------	[3] 262,832	[3] 10,604	[3] 30,100
1919	439,089	517,015	1,057,894	----------	[3] 240,161	[3] 9,035	[3] 30,577
1920	389,664	615,305	970,356	----------	[3] 194,255	[3] 10,098	[3] 34,492
1921	491,202	847,011	1,211,062	----------	[3] 267,648	[3] 13,161	[3] 44,392
1922	457,065	1,343,653	1,344,469	----------	[3] 209,519	[3] 13,589	[3] 38,412
1923	495,845	952,674	1,431,748	----------	[3] 282,452	[3] 15,634	[3] 36,914

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Includes all Russian territory reporting for years named. Further information of the territory included is given in notes 3 and 6 on Table 16.
[2] Excludes Poland.
[3] New boundaries.

TABLE 52.—*Rye: Monthly marketings by farmers, 1917–1923.*

Year beginning July 1	Percentage of year's receipts as reported by about 3,500 mills and elevators.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	2.8	14.8	20.5	17.1	11.3	7.6	5.8	6.4	7.6	3.4	1.7	1.0	100.0
1918–19													
1919–20	8.2	15.0	13.3	12.4	7.8	9.1	8.5	4.7	6.2	6.4	4.3	4.1	100.0
1920–21	7.3	20.7	18.1	12.2	8.8	7.0	6.6	4.7	4.3	3.7	3.3	3.3	100.0
1921–22	13.9	20.8	17.6	10.6	6.3	5.9	4.5	4.8	4.9	4.0	4.2	2.5	100.0
1922–23	10.7	20.5	14.8	12.3	10.2	8.7	6.5	5.3	4.0	2.9	2.2	1.9	100.0

Division of Crop and Livestock Estimates.

TABLE 53.—*Rye: Receipts at markets named, 1909–1922.*

Year beginning July 1.	Minneapolis.	Duluth.	Chicago.	Milwaukee.	Omaha.	Ft. William and Port Arthur.[1]
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	2,444	902	1,362	965	.....	.....
1910–11	1,518	134	1,121	1,033	.....	.....
1911–12	2,453	759	2,077	2,582	.....	.....
1912–13	5,943	2,341	3,299	2,336	.....	.....
1913–14	5,538	1,357	3,206	2,836	.....	.....
Average 1909–1913	3,579	1,099	2,213	1,950	.....	.....
1914–15	5,737	4,328	3,274	3,608	.....	.....
1915–16	6,774	4,216	5,651	3,872	.....	.....
1916–17	7,118	2,812	5,459	3,050	1,048	.....
1917–18	11,923	3,482	3,766	2,947	1,121	212
1918–19	16,467	16,115	8,467	4,472	1,782	970
1919–20	9,325	17,027	6,119	4,094	1,630	1,172
1920–21	5,428	14,631	4,132	3,607	1,409	2,832
Average 1914–1920	8,967	8,944	5,267	3,664	.....	.....
1921–22	4,754	17,446	4,235	2,282	2,048	5,297
1922–23	15,111	42,619	7,585	3,241	1,916	11,552
1922–23.						
July	598	368	353	38	25	.....
August	1,711	9,813	1,068	263	263	.....
September	1,174	9,882	272	194	186	3,064
October	1,875	4,611	410	327	251	2,124
November	1,168	3,688	1,392	406	279	1,766
December	2,071	3,412	567	488	215	1,106
January	2,610	2,636	1,020	521	286	663
February	1,303	1,893	948	371	186	212
March	863	1,890	382	252	102	384
April	724	2,069	545	229	64	463
May	416	1,224	153	78	35	593
June	598	1,133	475	74	24	278
July	.....	.....	.....	.....	.....	347
August	.....	.....	.....	.....	.....	552

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian statistics.

[1] Crop year begins in September.

TABLE 54.—*Rye, including flour: Net imports and net exports of principal countries, 1907–1922.*

Year ending July 31.	Imports.					Exports.				
	Belgium.	Denmark.	France.	Netherlands.	Norway.	Germany.	Rumania.	Russia.	Canada.	United States [2]
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1906–7	1,725	5,941	925	8,509	10,427	9,426	(1)	36,954	[3] 38	770
1907–8	97	5,781	[4] 1,574	6,416	8,799	4,912	(1)	35,999	[3] 49	2,445
1908–9	1,371	6,751	[4] 182	9,288	10,379	29,282	(1)	16,042	246	1,296
1909–10	2,399	8,624	86	8,760	10,934	22,988	(1)	25,322	30	242
1910–11	6,467	7,910	6,806	13,802	10,879	13,136	(1)	51,179	51	40
1911–12	4,241	7,274	2,372	11,914	9,897	28,180	4,132	17,080	[3] 37	31
1912–13	4,944	7,676	4,625	10,835	10,758	37,496	2,472	22,458	[3] 100	1,855
1913–14	6,630	8,443	2,696	13,029	10,699	36,209	2,296	26,950	5	2,273
1914–15	(1)	2,988	25	1,380	7,414	(1)	734	9,430	179	13,027
1915–16	(1)	2,302	[4] 7	2,126	7,699	(1)	2,112	13,442	782	15,250
1916–17	(1)	1,038	[4] 16	763	7,400	(1)	(1)	[3] 2,655	[3] 1,047	13,703
1917–18	(1)	49	1,286	20	2,152	(1)	(1)	(1)	[3] 1,045	17,186
1918–19	(1)	[4] 160	712	956	4,865	(1)	(1)	(1)	[3] 586	36,467
1919–20	5,135	[4] 1,086	8,347	[4] 1,087	5,802	(1)	[3] 20	(1)	2,524	41,531
1920–21	753	[4] 318	9,615	67	6,293	[3] 23,668	5,211	(1)	3,205	47,337
1921–22	251	2,297	[4] 1,275	125	7,110	5,967	1,212	(1)	4,279	29,944
1922–23	275	4,641	627	3,729	6,866	[3] 43,430	20	(1)	9,811	51,663

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural, Statistics 1915–16, 1922 and from official sources.

[1] Not available. [2] Net imports. [3] Years ending June 30. [4] Net exports.

TABLE 55.—*Rye, including flour: International trade, 1910–1923.*

Country.	Years ending July 31.							
	Average 1910–1914.		1920–21		1921–22		1922–23, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	(1)		143	2		5	(1) (2)	[2]3
Argentina [3]	(1)	278		485		669		1,013
Bulgaria		1,925	(1)	193	(1)	263		
Canada	68	56	29	3,227	14	4,293	[4]26	[4]9,138
Hungary	149	14,150			7	34	[2]2	20
Rumania	[5]26	2,902	2	5,213	1	1,213		20
Russia	5,381	33,979						
Spain				3		2		
Union of South Africa [3]	1	(1)	(1)	26	(1)	66	(1)	(1)
United States		942		40,383		32,023		[4]51,663
Yugoslavia				31		66		
PRINCIPAL IMPORTING COUNTRIES.								
Austria	1,469	2	1,645	1	2,139	3	1,680	[2]6
Belgium	[6]5,335	337	934	181	364	112	[4]231	[4]1,168
Czechoslovakia			3,117	2	782	153	146	[2]166
Denmark	8,753	266	99	407	3,060	763	[4]5,405	[4]439
Finland			2,599	(1)	3,563	43	[4]6,596	[4]6
France	3,328	19	9,641	26	28	1,303	[4]620	[4]679
Germany	16,416	44,018	24,398	[7]739	7,086	1,119	[4]42,765	[4]651
Greece			4	(1)	4		[2]704	
Italy	649	2	4,153	(1)	10	(1)	[4]227	[4]3
Latvia			147		576	61	[2]739	[2]78
Netherlands	29,557	17,899	1,412	1,345	1,496	1,371	[4]3,179	[4]1,266
Norway	10,644	[2]51	6,307	14	7,123	13	[4]6,856	
Poland					482	386	[2]7	[2]1
Portugal	[6]174	(1)						
Sweden	3,946	59	518	2,152	31	1,914	[4]809	[4]439
Switzerland	728	1	(1)	(1)	40	(1)	[2]2	(1) (7)
Total countries reported	86,699	117,485	55,132	54,421	26,896	45,875	69,994	66,757

Division of Statistical and Historical Research. Compiled from International Institute of Agriculture, except figures with foot-notes (2) and (4), which are compiled from official sources.

[1] Less than 500 bushels.
[2] Ten months ending May 31.
[3] Calendar years 1909–1922.
[4] Years ending June 30.
[5] Three-year average, 1912–1914.
[6] The month of July, 1914, is not comprised in the average.
[7] Eight months, August–December, 1920, and May–July, 1921.
[8] Eleven months.
[9] 1914 only.

TABLE 56.—*Rye: Farm price per bushel, 1st of month, United States, 1908–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–9	75.4	74.2	73.8	74.1	73.7	73.6	73.4	73.8	75.0	77.3	78.8	81.2	74.8
1909–10	81.7	78.5	72.4	72.8	73.0	71.8	74.6	76.1	76.5	76.6	74.9	74.8	74.2
1910–11	74.6	74.4	74.1	72.8	71.6	71.5	73.3	73.1	71.9	75.4	75.8	77.9	73.1
1911–12	76.9	75.5	76.9	79.7	83.1	83.2	82.7	84.6	84.0	85.1	84.6	86.1	81.4
1912–13	83.6	77.9	70.8	70.1	68.8	66.3	63.6	63.9	63.2	62.9	62.4	64.1	66.5
1913–14	63.2	60.7	63.0	64.8	63.2	63.4	62.5	61.7	61.9	63.0	62.9	64.4	63.1
Av. 1909–1913	76.0	73.4	71.4	72.0	72.1	71.2	71.4	72.8	71.5	72.6	72.1	73.5	72.1
1914–15	63.1	61.0	75.4	79.0	80.1	86.5	90.2	100.6	105.4	100.4	101.9	98.1	94.5
1915–16	93.7	89.0	85.5	81.7	85.7	83.4	85.3	88.3	85.6	83.6	83.7	83.8	86.0
1916–17	83.3	83.4	99.7	104.1	115.3	122.1	118.5	123.5	126.0	135.6	164.1	183.0	113.4
1917–18	177.1	178.1	161.9	169.8	168.8	166.0	170.3	174.8	201.0	235.1	221.1	187.8	175.6
1918–19	169.9	163.9	159.3	154.0	152.6	151.6	150.7	140.4	132.2	145.8	155.5	143.7	152.0
1919–20	138.6	149.7	128.3	125.3	129.8	138.2	158.2	154.3	145.0	136.1	133.1	133.9	142.9
1920–21	189.0	168.6	168.9	162.3	142.1	126.8	124.7	131.5	126.1	118.7	105.3	112.2	143.6
Av. 1914–1920	130.7	127.7	127.6	126.7	124.9	124.2	127.4	130.8	131.6	139.3	145.0	141.8	128.4
1921–22	106.8	98.1	89.9	88.6	74.6	69.7	69.6	70.4	83.5	84.2	87.3	88.0	81.5
1922–23	77.6	70.5	63.3	63.2	67.2	66.5	72.2	71.2	70.8	69.4	72.1	66.3	67.8
1923–24	58.2	54.4	56.2	58.2	59.5	64.7							

Division of Crop and Livestock Estimates.

TABLE 57.—*Rye: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Mass	95	105	94	95	100	98	98	101	102	127	200	227	175	195	161	175	140	135	24.30
Conn	90	90	86	93	92	92	91	98	102	125	210	205	200	174	159	150	150	125	22.50
N. Y	81	80	74	89	76	75	79	89	93	128	184	172	150	158	139	99	97	91	14.83
N. J	81	79	77	83	79	80	80	82	92	117	175	173	160	170	138	102	85	94	16.73
Pa	77	80	73	80	77	74	77	83	84	109	170	165	157	140	130	95	87	91	15.47
Del	82	75	69	95	81	79	80	92	99	123	178	171	160	136	137	100	105	96	13.82
Md	77	78	75	86	80	76	79	86	88	110	168	170	162	156	134	92	110	97	15.38
Va	82	84	80	89	85	81	84	90	93	107	175	175	170	155	138	95	90	107	12.84
W. Va	85	90	90	99	84	87	88	99	93	119	169	180	165	160	139	95	95	103	10.30
N. C	98	103	101	100	105	98	101	105	105	130	200	198	210	190	163	125	120	135	14.04
S. C	137	141	146	145	145	150	145	150	151	185	285	295	295	300	237	250	180	173	18.16
Ga	125	150	140	138	140	135	142	150	140	160	270	210	272	210	202	175	135	190	17.10
Ohio	76	76	72	85	75	69	75	81	83	120	161	150	145	135	125	84	83	78	12.09
Ind	74	74	68	80	68	62	70	85	82	119	160	152	140	130	124	73	79	73	10.22
Ill	73	74	71	81	70	65	72	85	83	122	165	150	130	130	124	80	75	75	11.25
Mich	71	69	68	85	65	62	70	91	85	130	165	150	128	130	126	70	70	62	8.68
Wis	71	68	71	84	61	57	68	91	87	132	169	150	133	130	127	71	72	65	9.62
Minn	63	60	64	78	50	48	60	89	81	127	167	150	130	122	124	62	68	53	7.16
Iowa	64	63	64	77	62	60	65	77	80	115	155	147	132	117	118	73	70	66	11.29
Mo	76	82	75	84	80	75	79	87	86	123	165	163	150	125	128	86	93	88	11.00
N. Dak	65	57	63	76	47	45	58	84	79	125	164	145	121	119	120	58	60	48	3.74
S. Dak	59	59	61	76	52	50	60	78	76	118	155	141	125	109	115	58	58	49	5.64
Nebr	60	61	60	75	56	60	62	74	73	116	155	135	115	103	110	60	65	56	6.72
Kans	71	75	78	81	68	75	74	80	76	110	167	170	141	109	121	68	70	75	6.38
Ky	85	88	85	94	88	87	88	95	94	129	175	161	175	150	140	112	110	103	12.05
Tenn	90	96	92	99	98	99	97	98	103	135	195	192	200	190	159	135	119	116	11.60
Ala	123	136	120	125	134	140	131	110	135	175	238	261	260	250	208	160	153	160	19.20
Texas	98	123	103	107	110	101	109	99	108	120	198	235	167	150	153	100	125	98	11.76
Okla	80	93	81	104	87	86	90	95	77	125	170	187	150	109	129	66	80	90	10.80
Ark	94	105	98	90	105	95	99	105	100	115	150	210	200	220	157	130	100	120	10.80
Mont	68	75	68	72	60	55	66	70	65	98	165	144	185	108	119	53	54	51	5.61
Wyo	71	90	81	90	65	64	78	81	90	108	155	152	180	115	126	58	52	66	8.58
Colo	70	73	67	70	55	60	65	66	70	105	146	140	130	105	109	60	66	56	6.72
N. Mex																70	100	90	10.80
Utah	65	70	68	70	68	60	67	60	65	100	160	180	200	150	131	70	60	90	10.26
Idaho	68	70	66	67	60	58	64	67	68	95	135	165	175	100	115	70	67	68	12.92
Wash	90	94	89	80	65	60	78	85	75	111	175	200	185	160	142	65	95	72	11.30
Oreg	85	100	100	90	70	75	87	100	90	115	170	205	190	125	142	68	85	93	13.95
U. S	72.8	72.2	71.5	83.2	66.3	63.4	85.9	86.5	88.4	122.1	166.0	151.6	133.2	126.8	124.2	69.7	68.5	64.7	7.91

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 58.—*Rye No. 2: Weighted average price per bushel, Chicago, 1909–1923.*

Year beginning July 1—	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May.	June.	Weighted average.
1909–10	$0.79	$0.71	$0.72	$0.73	$0.74	$0.77	$0.81	$0.81	$0.79	$0.79	$0.77	$0.76	$0.76
1910–11	.77	.75	.74	.76	.79	.81	.84	.82	.89	.95	1.02	.90	.84
1911–12	.84	.85	.91	.97	.95	.93	.94	.92	.91	.94	.93	.83	.91
1912–13	.74	.72	.69	.69	.64	.61	.64	.62	.60	.62	.62	.62	.65
1913–14	.63	.66	.67	.65	.64	.63	.61	.62	.61	.62	.65	.63	.64
Av. 1909–1913	.75	.74	.75	.76	.75	.75	.77	.76	.76	.78	.80	.75	.76
1914–15	.64	.84	.95	.92	1.02	1.10	1.19	1.23	1.17	1.17	1.19	1.17	1.05
1915–16	1.08	1.00	.96	1.01	.99	.97	1.01	.97	.93	.96	.98	.98	.99
1916–17	.98	1.13	1.20	1.33	1.47	1.41	1.43	1.46	1.61	1.87	2.20	2.40	1.54
1917–18	2.27	1.90	1.86	1.84	1.78	1.82	2.01	2.39	2.84	2.64	2.20	1.80	2.11
1918–19	1.73	1.67	1.63	1.63	1.68	1.59	1.61	1.38	1.61	1.73	1.59	1.46	1.61
1919–20	1.55	1.54	1.40	1.38	1.42	1.66	1.76	1.56	1.72	1.99	2.13	2.27	1.70
1920–21	2.04	1.90	1.99	1.69	1.59	1.61	1.63	1.47	1.40	1.35	1.47	1.32	1.62
Av. 1914–1920	1.47	1.43	1.43	1.40	1.42	1.45	1.52	1.49	1.62	1.67	1.68	1.63	1.52
1921–22	1.27	1.07	1.04	.86	.79	.86	.81	.97	1.02	1.04	1.06	.90	.97
1922–23	.82	.78	.72	.78	.87	.88	.87	.86	.83	.86	.78	.70	.81
1923–24	.65	.67	.70	.72	.71	.70							

Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin.

THE WHEAT SITUATION.

Tables 59 to 91 reprinted from Secretary's report to the President on "The Wheat Situation," the text of which appears on pages 95 to 150 of the 1923 Yearbook. Other statistical data of that report are covered by tables appearing regularly in the Yearbook.

TABLE 59.—*Total winter wheat acreage, production, and percentage of acreage abandoned in representative counties of high and low crop risk in Kansas, 1912–1923.*

Year.	Ford County (area high crop risk).					McPherson County (area low crop risk).				
	Area seeded.	Area harvested.	Total production.	Average yield per seeded acre.	Percentage of seeded acreage abandoned.	Area seeded.	Area harvested.	Total production.	Average yield per seeded acre.	Percentage of seeded acreage abandoned.
	Acres.	*Acres.*	*Bushels.*	*Bushels.*	*Per cent.*	*Acres.*	*Acres.*	*Bushels.*	*Bushels.*	*Per cent.*
1912	237,907	223,633	3,130,862	13.2	6.0	141,184	76,239	914,868	6.5	46.0
1913	243,943	134,169	670,845	2.8	45.0	163,041	158,150	2,214,100	13.6	3.0
1914	270,668	270,668	5,142,692	19.0	0.0	192,368	192,368	4,424,464	23.0	0.0
1915	252,588	212,170	2,546,040	10.1	16.0	193,282	164,290	2,135,770	11.0	15.0
1916	249,600	222,224	3,111,136	12.5	11.0	186,138	163,801	1,638,010	8.8	12.0
1917	317,739	25,419	127,095	.4	92.0	177,394	127,724	1,915,860	10.8	28.0
1918	284,261	28,426	85,278	.3	90.0	204,051	193,848	3,489,264	17.1	5.0
1919	297,800	297,800	3,275,800	11.0	0.0	223,250	223,250	2,679,000	12.0	0.0
1920	320,239	237,043	1,896,344	5.9	26.0	204,236	181,770	2,544,780	12.5	11.0
1921	306,398	240,737	2,648,107	8.6	21.4	223,774	210,348	2,734,524	12.2	6.0
1922	320,100	192,000	1,728,000	5.4	40.0	245,000	245,000	4,410,000	18.0	0.0
1923	314,200	62,800	251,200	.8	80.0	232,500	225,500	2,255,000	9.7	3.0
All	3,415,528	2,147,089	24,613,399	7.2	37.1	2,386,218	2,162,288	31,355,640	13.1	9.4

Division of Cost of Production. Compiled from Biennial Reports, Kansas State Board of Agriculture.

TABLE 60.—*Hours of man and horse labor prior to harvest, and amount of seed wheat required per bushel of production in representative counties of high and low crop risk in Kansas, 1912–1923.*

Year.	Man labor prior to harvest.		Horse labor prior to harvest.		Seed.	
	Ford County (area high crop risk).	McPherson County (area low crop risk).	Ford County (area high crop risk).	McPherson County (area low crop risk).	Ford County (area high crop risk).	McPherson County (area low crop risk).
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Bushels.*	*Bushels.*
1912	0.22	1.01	0.96	4.22	0.06	0.24
1913	1.45	.34	6.21	1.42	.40	.08
1914	.15	.20	.63	.82	.04	.05
1915	.32	.47	1.38	1.97	.09	.11
1916	.25	.57	1.07	2.39	.07	.13
1917	13.44	.53	57.60	2.22	3.70	.13
1918	17.73	.28	76.00	1.15	4.88	.07
1919	.25	.38	1.09	1.57	.07	.09
1920	.59	.40	2.56	1.67	.16	.09
1921	.70	.39	1.69	1.63	.11	.09
1922	.78	.25	3.11	1.04	.20	.06
1923	6.30	.48	27.00	2.90	1.73	.11

Division of Cost of Production.

TABLE 61.—*Cost of producing wheat, 1902–1921.*[1]

Region.	Year.	Cost per acre.		Yield per acre.	Cost per bushel.		Average farm price per bushel.[2]
		Excluding land rent.	Including land rent.		Excluding land rent.	Including land rent.	
		Dollars.	*Dollars.*	*Bushel.*	*Dollars.*	*Dollars.*	*Dollars.*
Minnesota:							
Rice County [3]	1902–1907	6.36	9.86	15.0	0.42	0.66	0.74
Lyon County [3]	1902–1907	5.39	8.39	12.6	.43	.67	.74
Norman County [3]	1902–1907	4.86	6.98	12.4	.39	.56	.74
Rice County [4]	1908–1912	8.54	13.04	15.9	.54	.82	.90
Lyon County [4]	1908–1912	8.59	12.60	22.0	.39	.57	.90
Norman County [4]	1908–1912	7.37	10.37	16.6	.44	.62	.90
Wisconsin [5]	1909–1918	8.62	12.10	17.0	.51	.71	1.35
North Dakota [6]	1911–1916	8.89	11.22	13.2	.67	.85	.87
North Dakota [5]	1917	13.40	15.75	13.2	1.02	1.19	2.00
New York [6]	1913	24.92	28.88	27.4	.91	1.05	.98
New York [6]	1914	18.20	23.19	23.0	.79	1.01	1.08
Missouri [7]	1910–13	7.28	12.30	.....	.....	.....	.87
1919 Winter wheat: [8]							
Kansas—							
Ford County	1919	18.03	24.30	13.3	1.36	1.82	1.99
Pawnee County	1919	15.11	23.06	13.9	1.09	1.65	2.01
McPherson County	1919	21.55	30.20	12.7	1.70	2.38	1.94
Missouri—							
Saline County	1919	20.93	35.28	16.3	1.28	2.17	2.01
Jasper County	1919	24.10	34.64	19.2	1.26	1.80	1.89
St. Charles County	1919	22.49	34.13	19.6	1.15	1.74	2.10
Nebraska—							
Phelps County	1919	16.72	23.84	10.8	1.55	2.20	1.89
Saline County	1919	25.66	39.54	18.1	1.42	2.19	2.09
Keith County	1919	18.83	28.52	18.1	1.04	1.57	1.95
Average	1919	18.99	27.80	14.9	1.27	1.87	1.99
1919 Spring wheat: [8]							
Minnesota—							
Clay County	1919	16.29	22.91	8.1	2.01	2.82	2.09
Traverse County	1919	17.21	23.61	8.4	2.05	2.80	2.21
North Dakota—							
Grand Forks County	1919	17.37	21.88	9.8	1.77	2.24	2.17
Morton County	1919	16.47	18.83	4.4	3.74	4.26	2.47
South Dakota—							
Spink County	1919	15.80	23.70	9.9	1.60	2.40	2.13
Average	1919	16.61	22.40	8.4	1.98	2.65	2.17
1920 Winter wheat: [8]							
Missouri—							
Pike County	1920	24.46	32.56	13.5	1.81	2.42	2.46
Carroll County	1920	24.30	35.37	17.6	1.38	2.01	2.35
Nebraska—							
Gage County	1920	22.28	37.24	21.5	1.04	1.73	2.17
Clay County	1920	19.76	33.60	13.1	1.51	2.57	1.95
Cheyenne County	1920	18.87	27.25	19.0	.99	1.43	1.90
Kansas—							
Thomas County	1920	12.85	17.83	14.1	.91	1.26	1.95
McPherson County	1920	18.59	29.62	14.6	1.27	2.03	2.22
Pawnee County	1920	17.87	24.62	12.1	1.48	2.03	2.10
Oklahoma—							
Garfield County	1920	21.14	30.55	18.4	1.15	1.66	2.19
Woodward County	1920	18.67	21.82	9.5	1.97	2.30	2.12
Average	1920	18.72	26.30	14.9	1.26	1.80	2.09
Idaho: Latah County	1919	34.69	53.72	31.6	1.10	1.70	2.09
Washington: Whitman County [9]	1920	34.42	54.32	36.6	.94	1.48	1.29
	1921	29.65	47.29	31.6	.94	1.50	.90
Oregon: [9] Sherman County	1920	23.26	32.92	20.9	1.11	1.58	1.65
	1921	21.13	30.55	27.8	.76	1.10	1.00

Division of Cost of Production.

[1] Gross costs are shown prior to 1919. From 1919 through 1921 a deduction has been made for the value of straw and pasture, resulting in a net cost per bushel and per acre.

[2] 1902–1913, State averages as reported by the United States Department of Agriculture; 1919–1921 prices received on farms studied.

[3] United States Department of Agriculture, Bureau of Statistics, Bulletin No. 73.

[4] Minnesota Agricultural Experiment Station, Bulletin No. 145.

[5] Unpublished data in the files of the United States Department of Agriculture.

[6] New York Department of Agriculture, Bulletin No. 86.

[7] Missouri Agricultural Experiment Station, Bulletin No. 125.

[8] United States Department of Agriculture, Bulletin No. 943.

[9] Preliminary reports on cost of producing wheat, United States Department of Agriculture. Winter wheat after summer fallow.

TABLE 62.—*Cost of producing wheat, 1922.*

Region.	Number of reports.	Yield per acre.[1]	Gross cost per acre. Labor. Preparing land and planting.	Harvesting and threshing.	Marketing.	Fertilizer and manure.	Seed.	Miscellaneous costs.	Land rent.	Total.
		Bush.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
United States[2]	2,417	16	3.94	4.27	1.40	2.47	1.84	1.87	5.41	21.20
Eastern States[3]	331	19	6.10	5.38	1.88	3.47	2.47	2.24	5.60	30.14
Corn Belt States[4]	507	18	3.73	4.15	1.21	3.00	2.06	1.61	6.63	22.39
Spring wheat States[5]	436	15	3.09	3.53	1.42	.36	1.49	1.67	3.66	15.22
Winter wheat States[6]	421	14	3.02	3.98	.94	.60	1.33	1.53	4.47	15.87
Pacific Northwest wheat States[7]	104	22	4.39	5.09	1.42	1.04	1.59	3.20	9.89	26.62

Region.	Number of reports.	Yield per acre.[1]	Deductions for by-products per acre.	Net cost. Excluding land rent. Per acre.	Excluding land rent. Per bushel.	Including land rent. Per acre.	Including land rent. Per bushel.	Value of product. Per acre.	Value of product. Per bushel.
		Bush.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
United States[2]	2,417	16	1.52	14.27	0.89	19.68	1.23	17.79	1.11
Eastern States[3]	331	19	3.83	20.71	1.09	26.31	1.38	22.19	1.17
Corn Belt States[4]	507	18	1.80	13.96	.78	20.59	1.14	19.72	1.10
Spring wheat States[5]	436	15	.50	11.06	.74	14.72	.98	13.63	.91
Winter wheat States[6]	421	14	.57	10.83	.77	15.30	1.09	13.33	.95
Pacific Northwest wheat States[7]	104	22	.92	15.81	.72	25.70	1.17	22.98	1.04

Division of Cost of Production. Based on returns to mail questionnaires sent to crop reporters.

[1] Average yields on farms reporting.
[2] Average for all farms reporting.
[3] New York, Pennsylvania, Maryland, Virginia, and West Virginia.
[4] Ohio, Indiana, Illinois, and Iowa.
[5] Minnesota, North Dakota, South Dakota, and Montana.
[6] Missouri, Kansas, Nebraska, Oklahoma, and Texas.
[7] Idaho, Washington, and Oregon.

TABLE 63.—*Cost of production, excluding land rent, and farm price of spring wheat, 1913–1923.*

Year.	North Dakota, South Dakota, Minnesota.[1] Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Difference between farm value and cost per acre (excluding land rent).	Value per acre of all land with improvements.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Bushels.*	*Dollars.*	*Dollars.*
1913	8.44	8.89	+0.45	49	11.7	0.72	0.76
1914	8.31	10.60	+2.29	52	10.5	.79	1.01
1915	10.42	16.54	+6.12	54	17.6	.59	.94
1916	8.76	8.87	+.11	57	6.2	1.41	1.43
1917	13.25	23.60	+10.35	62	11.8	1.12	2.00
1918	16.77	33.46	+16.69	65	16.4	1.02	2.04
1919	17.12	17.94	+.82	72	7.8	2.19	2.30
1920	18.92	15.65	−3.27	95	9.1	2.08	1.72
1921	12.36	8.94	−3.42	94	8.6	1.44	1.04
1922	11.84	11.54	−.10	81	13.9	.84	.83
1923[2]	10.76	8.16	−2.60	73	8.9	1.21	.91

Division of Cost of Production.

[1] Costs computed from basic requirements as shown in Bulletin No. 943; 1913–1921 prices are averages of prices from July to June; 1922–23 prices are for Oct. 1.
[2] 1923 figures subject to revision

TABLE 64.—*Cost of production, excluding land rent, and farm price of winter wheat, 1913–1923.*

Year.	Kansas, Nebraska, Missouri.[1]						
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Difference between farm value and cost per acre (excluding land rent).	Value per acre of land with improvements.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Bushels.*	*Dollars.*	*Dollars.*
1913	9.62	11.70	+2.08	60	15.2	0.68	0.77
1914	10.18	18.03	+7.85	61	19.6	.52	.92
1915	9.98	13.34	+3.36	61	13.9	.72	.96
1916	10.19	18.36	+8.17	66	13.4	.76	1.37
1917	13.50	27.72	+14.22	70	13.2	1.02	2.10
1918	17.12	28.34	+11.22	77	14.1	1.21	2.01
1919	19.47	28.76	+9.29	85	13.5	1.44	2.13
1920	20.48	26.93	+6.45	106	15.3	1.34	1.76
1921	15.02	12.85	−2.17	99	12.6	1.19	1.02
1922	12 01	11.31	−.70	79	13.0	.92	.87
1923[2]	12.09	9.49	−2.60	77	10.1	1.20	.94

Division of Cost of Production.

[1] Costs computed from basic requirements as shown in Bulletin No. 943; 1913–1921 prices are averages of prices from July to June; 1922–1923 prices are for Oct. 1.
[2] 1923 figures subject to revision.

TABLE 65.—*Index numbers of cost of production, excluding land rent, and farm price of spring wheat, 1913–1923.*

Year.	North Dakota, South Dakota, Minnesota.					
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Value per acre of all land with improvements.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100
1914	98	139	106	90	110	133
1915	123	186	110	150	82	124
1916	104	109	116	53	196	188
1917	157	265	126	101	156	253
1918	199	376	133	140	142	268
1919	203	202	147	67	304	303
1920	224	176	194	78	289	226
1921	146	101	192	74	200	132
1922	138	130	165	119	117	109
1923	127	91	149	76	168	120

Division of Cost of Production.

TABLE 66.—*Index numbers of cost of production, excluding land rent, and farm price of winter wheat, 1913–1923.*

Year.	Kansas, Nebraska, Missouri.					
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Value per acre of land with improvements.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100
1914	106	154	102	129	82	120
1915	104	114	102	91	114	125
1916	106	157	110	88	191	178
1917	140	237	117	87	162	273
1918	178	242	128	93	192	264
1919	202	246	142	89	229	277
1920	213	230	177	101	213	230
1921	156	120	165	83	189	134
1922	125	97	132	86	146	113
1923	126	81	128	66	190	156

Division of Cost of Production.

TABLE 67.—*Value of farm land per acre, United States and Canada, 1914–1922.*

Country and subdivision.	1914	1915	1916	1917	1918	1919	1920	1921	1922
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
United States[1]	64	64	69	68	75	81	99	94	79
Minnesota	66	70	75	88	87	94	124	126	110
North Dakota	33	34	37	39	41	43	50	50	46
South Dakota	57	58	60	63	66	80	110	106	87
Montana	38	35	34	35	37	39	42	35	25
Idaho	63	66	64	71	87	97	125	125	105
Washington	110	99	102	100	115	115	150	145	100
Oregon	80	75	70	82	104	95	120	135	100
Nebraska	74	71	76	80	92	105	135	120	90
Kansas	51	53	58	60	64	69	80	80	69
Colorado	65	65	60	62	64	66	75	75	70
Oklahoma	30	29	31	35	41	43	55	55	48
Texas	39	39	39	45	52	55	69	65	56
Canada[2]	37	35	36	38	41	46	48	40	40
Manitoba	32	30	32	31	32	35	39	35	32
Saskatchewan	24	24	23	26	29	32	32	29	28
Alberta	21	23	22	27	28	29	32	28	24

Division of Statistical and Historical Research.

[1] Based on estimated value per acre of "all land with improvements" as reported by crop reporters to Division of Crop and Livestock Estimates.

[2] "All occupied farm land with improvements" as reported by Dominion Bureau of Statistics.

TABLE 68.—*Index numbers of farm price of wheat and of costs of important factors of production and marketing in the United States, 1913–1923.*

Year.	Average farm price of wheat [1] per bushel.	Monthly wages of farm labor without board.	Wholesale prices of 13 representative farm implements.	Binder twine.	Value of all land per acre with improvements.	Freight rates.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100
1914	121	99	101	102	105	99
1915	122	99	105	105	105	100
1916	172	108	110	132	113	101
1917	260	133	131	193	111	101
1918	258	155	178	232	122	117
1919	274	186	188	226	133	131
1920	236	214	196	175	161	147
1921	131	143	185	140	153	177
1922	112	138	152	114	129	160
1923	116	[2]	154	123	122	.....

Division of Cost of Production.

Implement prices from International Harvester Co. of America.

[1] 1913–1921: Average of prices from July to June: 1922–23 prices for October 1.

[2] 1923 wage index: January 133, April 140, July 159, October 154.

TABLE 69.—*Index numbers of farm price of wheat and costs of important factors of production and marketing in Kansas and North Dakota, 1913–1923.*

Year.	Winter wheat (Kansas).						
	Average farm price of wheat.[1]	Monthly wages of farm labor without board.	Wholesale prices 13 representative farm implements.	Binder twine average, United States prices.	Threshing rate (shock threshing bundle grain).	Value of all land with improvements.	Freight rates from McPherson, to Kansas City, Mo.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100	100
1914	118	104	101	102	100	102	100
1915	124	107	105	105	100	106	100
1916	177	113	110	132	100	116	100
1917	273	136	131	193	150	120	100
1918	255	167	178	232	150	128	125
1919	276	194	188	226	200	138	125
1920	222	230	196	175	200	160	160
1921	132	150	185	140	160	160	160
1922	110	139	152	114	150	138	140
1923	122	[2]	154	123	150	136	.....

Division of Cost of Production.

[1] 1913–1921 indices are averages of prices from July to June; 1922–1923 are for Oct. 1.

[2] 1923 wage index, Kansas: January, 132; April, 142; July, 146; October, 151. North Dakota: January, 103; April, 135; July, 144; October, 147.

TABLE 69.—*Index numbers of farm price of wheat and costs of important factors of production and marketing in Kansas and North Dakota, 1913–1923*—Continued.

Year.	Spring wheat (North Dakota).						
	Average farm price of wheat.[1]	Monthly wages of farm labor without board.	Wholesale prices 13 representative farm implements.	Binder twine average United States prices.	Threshing rate (shock threshing bundle grain).	Value of all land with improvements.	Freight rates from Larimore, N. Dak., to Minneapolis, Minn.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100	100
1914	136	106	101	102	100	106	100
1915	124	107	105	105	100	110	100
1916	189	111	110	132	100	119	100
1917	265	141	131	193	150	126	100
1918	273	169	178	232	150	132	125
1919	311	187	188	226	200	139	125
1920	240	228	196	175	200	161	171
1921	137	142	185	140	160	161	171
1922	111	131	152	114	150	148	146
1923	121	[2]	154	123	150	135	.....

Division of Cost of Production.
Implement prices from International Harvester Co. of America.

[1] 1913–1921 indices are averages of prices from July to June; 1922-1923 are for Oct. 1.
[2] 1923 wage index, Kansas: January, 132; April, 142; July, 146; October, 151. North Dakota: January, 101; April, 125; July, 144; October, 147.

TABLE 70.—*Wheat, hard spring—margins between the prices in the United States and Canada, 1921–1923.*[1]

Year and month.	Winnipeg No. 2 Northern.[2]	Duluth No. 1 Dark Northern.	Minneapolis No. 1 Dark Northern.	Margins American over Canadian prices.	
				Duluth.	Minneapolis.
1921.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	168	178	179	10	11
February	163	170	170	7	7
March	165	169	166	4	1
April	152	151	148	−1	−4
May	164	158	156	−6	−8
June	165	162	161	−3	−4
July	159	154	165	−5	6
August	135	148	148	13	13
September	128	151	152	26	24
October	103	134	134	31	31
November	99	128	128	29	29
December	99	130	130	31	31
1922.					
January	104	131	133	27	29
February	124	153	152	29	28
March	132	157	155	25	23
April	135	164	161	29	26
May	137	162	161	25	24
June	128	147	146	19	18
July	130	130	147	.....	17
August	112	122	124	10	12
September	99	113	113	14	14
October	100	115	116	15	16
November	108	123	123	15	15
December	106	128	127	22	23
1923.					
January	106	122	124	16	18
February	108	123	126	15	18
March	109	123	125	14	16
April	118	129	130	11	12
May	114	126	126	12	12
June	111	114	115	3	4
July	103	108	109	5	6
August	106	116	116	10	10
September	99	123	118	24	19
October	94	124	126	30	32
November	93	120	119	27	26
December	88	118	119	30	31

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.

[1] Prices are common averages of the mean of the range of daily closing prices. Only days on which prices for the three markets appeared were used.
[2] Conversions at current rate of exchange as reported by the Federal Reserve Board. Winnipeg prices on basis in store at Fort William and Port Arthur.

TABLE 71.—*Wheat—Average spot prices in Liverpool, June, 1921–December, 1923.*[1]

Year and month.	No. 1 Northern Manitoba per bushel.	No. 2 Hard Winter (American) per bushel.	Margin of Canadian over American winter wheat, per bushel.
1921.	*Cents.*	*Cents.*	*Cents.*
June	210.5	201.6	9.9
October	136.4	126.4	12.0
November	134.6	124.8	9.8
December	146.8	135.2	11.6
1922.			
January	145.1		
February	169.9		
March	179.1		
April	171.1	157.4	13.7
May	170.9	158.3	12.6
June	157.7	143.3	14.4
July	165.5	146.9	18.6
August	159.3	141.3	18.0
September	148.3	130.0	18.3
October	154.2	140.2	14.0
November	144.9	152.4	−7.5
December	148.1	154.3	−6.2
1923.			
January	143.6	141.8	1.8
February	143.7	142.0	1.7
March	142.0	140.3	1.7
April	146.0	145.3	.7
May	150.4		
June	142.1		
July	138.9		
August	135.4	126.0	9.4
September	141.8		
October	140.1		
November	131.5		
December	128.0		

Division of Statistical and Historical Research. Compiled from Broomhall's Corn Trade News.

[1] Monthly averages for days on which prices for both classes of wheat were quoted. Quotations converted at exchange for the month.

TABLE 72.—*Chicago prices to dealers for five representative farm implements, 1913–1923.*[1]

Implement.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Grain binder (6-foot with bundle carrier)	95.43	95.43	95.43	100.09	120.25	166.25	166.25	156.75	168.40	138.70	138.70
Grain drill (12 by 7, single disk)	54.40	54.40	54.40	55.33	68.40	92.15	92.15	92.15	94.05	79.80	79.56
Corn planter (with 80 rods wire)	31.62	31.62	31.15	33.72	42.75	55.57	55.57	55.57	54.86	49.40	49.64
Corn binder (with bundle carrier)	95.43	95.43	95.43	100.09	120.25	166.25	166.25	156.75	168.40	138.70	138.70
Mower (5-foot, plain lift)	33.52	34.45	34.45	36.31	44.40	61.75	61.75	58.90	62.46	53.20	53.20

Bureau of Agricultural Economics. Implement prices from International Harvester Co. of America.

[1] F. o. b.

TABLE 73.—*Index numbers of Chicago prices to dealers for representative farm implements, 1913–1923.*[1]

Implement.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Group of 13 representative farm implements[2]	100	101	105	110	131	178	188	196	185	152	154
Grain binder (6-foot with bundle carrier)	100	100	100	105	126	174	174	164	171	145	145
Grain drill (12 by 7, single disk)	100	100	100	102	126	169	169	169	173	147	146
Corn planter (with 80 rods wire)	100	100	99	107	135	176	176	176	173	156	157
Corn binder (with bundle carrier)	100	100	100	105	126	174	174	164	171	145	145
Mowers (5-foot, plain lift)	100	103	103	108	132	184	184	176	186	159	159

Bureau of Agricultural Economics. Price data furnished by International Harvester Co. of America.

[1] F. o. b.

[2] The group includes one each of the following implements: grain binder, mower, self-dump hay rake, hay loader, corn planter, corn binder, ensilage cutter, grain drill, disk harrow, spring-tooth harrow, spike-tooth harrow, cream separator, standard 3½-inch wagon.

TABLE 74.—*Some factors influencing the price of wheat (hard winter wheat at Kansas City).*

AUGUST 26, 1922.

Grade.		Price.	Description.
		Dollars.	
Dark hard	No. 1	1.10	Average protein, northern Kansas.
	No. 2	1.14–1.17	13–14 per cent protein; good territory Kansas or higher test Nebraska.
		1.08–1.11	12 to over 13 per cent protein, northwest Kansas, Nebraska, and Colorado.
	No. 3	1.15–1.17	Higher protein; southern Kansas wheat.
		1.10–1.12	Good strength from fair producing sections.
	No. 4	1.15	14 per cent protein or under.
	No. 5	1.08–1.13	Good to high test.
Hard	No. 1	1.09	Near dark, good protein.
	No. 2	1.08–1.10	13 per cent protein or more; near dark.
		1.05–1.08	12–13 per cent protein; 50–70 per cent dark.
		1.01–1.05	Medium.
		1.00	Ordinary.
	No. 3	1.08–1.10	13 per cent protein or over; 70 per cent or more dark.
		1.05–1.07	12–13 per cent protein; 50–65 per cent dark.
		1.00–1.02	Medium.
		1.00	Ordinary.
	No. 4	1.07–1.10	13 per cent protein and over; good character.
		1.03–1.06	12–13 per cent protein; 50 per cent and more dark.
		.97	Medium.
	No. 5	.97–1.00	Average strength, medium quality.

OCTOBER 29, 1923.

Dark hard	No. 4	1.18	13.72 per cent protein; Colorado.
		1.12	12.60 per cent protein; Colorado.
Hard	No. 1	1.18	12.64 per cent protein; Kansas; 61½ pounds.
	No. 2	1.20–1.22	12.90–13.50 per cent protein; near dark.
		1.18	12.42–12.58 per cent protein; good territory, Kansas.
		1.12–1.15	12.30–12.60 per cent protein; intermediate character.
		1.05–1.09	12.25 per cent or less protein; medium to ordinary quality.
	No. 3	1.19–1.21	12.90–13.75 per cent protein; choice.
		1.12–1.16	12.50–13 per cent protein; medium to fair character.
		1.05–1.09	12–12.40 per cent protein; medium quality.
		1.03–1.05	12 per cent or less protein; ordinary.
	No. 4	1.14–1.16	12.90–13.73 per cent protein; fair to good.
		1.08–1.11	12.45–12.85 per cent protein; intermediate.
		1.03–1.07	12–12.40 per cent protein.
		.98–1.03	Under 12 per cent protein.
		.98–1.00	Extremely common.
	No. 5	1.19	14 per cent protein; fancy; 53½ pounds.
		1.12	13.12 per cent protein.
		1.07	Near 13 per cent protein.
		1.03–1.04	12.70 per cent protein.
		1.00	12 per cent protein; 53 pounds.
		.92– .96	Under 12 per cent protein; 51–53½ pounds.

Division of Statistical and Historical Research. Compiled from Kansas City Grain Market Review.

TABLE 75.—*Wheat, estimated prices of No. 1 Northern Spring if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau Labor Statistics, 1909–1913=100.[1]			Minneapolis prices per bushel.[2]	1909–1913 prices per bushel raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	1.048	1.860	1.510	1.706	1.81	1.39	1.26
February	167.0	147.2	163.9	1.044	1.743	1.537	1.711	1.74	1.58	1.31
March	161.8	148.2	166.0	1.042	1.686	1.544	1.730	1.72	1.50	1.29
April	154.5	149.3	166.0	1.058	1.635	1.580	1.756	1.57	1.66	1.34
May	151.4	154.5	162.8	1.094	1.656	1.690	1.781	1.67	1.71	1.32
June	148.2	156.6	159.7	1.090	1.615	1.707	1.741	1.74	1.53	1.22
July	147.2	161.8	157.6	1.098	1.616	1.777	1.730	1.81	1.57	1.18
August	148.2	161.8	156.6	1.020	1.512	1.650	1.597	1.57	1.22	1.22
September	147.2	159.7	160.8	.998	1.466	1.595	1.602	1.56	1.20	1.26
October	148.2	160.8	159.7	.992	1.470	1.591	1.584	1.37	1.21	1.26
November	147.2	162.8	158.7	.966	1.422	1.573	1.533	1.30	1.28	1.19
December	146.1	162.8	157.6	.970	1.417	1.579	1.529	1.33	1.31	1.19
Year	153.4	155.5	160.8	1.035	1.588	1.609	1.664	1.60	1.43	1.26

Division of Statistical and Historical Research.

[1] Bureau of Labor Statistics index converted to 1909-1913 base.
[2] Average cash price.
[3] The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales No. 1 Dark Northern, Minneapolis.

TABLE 76.—*Wheat, estimated prices of No. 2 Hard Winter if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau Labor Statistics, 1909–1913=100.[1]			Kansas City prices per bushel.[2]	1909–1913 prices per bushel raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	1.008	1.789	1.453	1.641	1.72	1.13	1.14
February	167.0	147.2	163.9	1.000	1.670	1.472	1.639	1.62	1.29	1.15
March	161.8	148.2	166.0	1.008	1.631	1.494	1.673	1.55	1.34	1.16
April	154.5	149.3	166.0	1.046	1.616	1.562	1.736	1.33	1.35	1.20
May	151.4	154.5	162.8	1.066	1.614	1.647	1.735	1.47	1.34	1.16
June	148.2	156.6	159.7	1.060	1.571	1.660	1.693	1.38	1.17	1.04
July	147.2	161.8	157.6	.958	1.410	1.550	1.510	1.14	1.13	.96
August	148.2	161.8	156.6	.934	1.384	1.511	1.463	1.15	1.04	1.01
September	147.2	159.7	160.8	.942	1.387	1.504	1.515	1.22	1.04	1.09
October	148.2	160.8	159.7	.954	1.414	1.534	1.524	1.10	1.13	1.12
November	147.2	162.8	158.7	.922	1.357	1.501	1.463	1.10	1.17	1.09
December	146.1	162.8	157.6	.942	1.376	1.534	1.485	1.09	1.17	1.09
Year	153.4	155.5	160.8	.987	1.514	1.535	1.587	1.32	1.19	1.10

Division of Statistical and Historical Research.

[1] Bureau of Labor Statistics index converted to 1909-1913 base.
[2] Average cash price.
[3] The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales, Kansas City

TABLE 77.—*Wheat, estimated prices of No. 2 Red Winter if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per bushel.[2]	1909–1913 prices per bushel raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	1.074	1.906	1.548	1.748	1.94	1.21	1.30
February	167.0	147.2	163.9	1.068	1.784	1.572	1.750	1.85	1.34	1.35
March	161.8	148.2	166.0	1.056	1.709	1.565	1.753	1.65	1.38	1.31
April	154.5	149.3	166.0	1.090	1.684	1.627	1.809	1.41	1.40	1.32
May	151.4	154.5	162.8	1.148	1.738	1.774	1.869	1.67	1.34	1.28
June	148.2	156.6	159.7	1.124	1.666	1.760	1.795	1.47	1.18	1.16
July	147.2	161.8	157.6	.990	1.457	1.602	1.560	1.24	1.14	1.00
August	148.2	161.8	156.6	.974	1.443	1.576	1.525	1.22	1.07	1.00
September	147.2	159.7	160.8	.990	1.457	1.581	1.592	1.29	1.06	1.05
October	148.2	160.8	159.7	1.028	1.523	1.653	1.642	1.18	1.18	1.11
November	147.2	162.8	158.7	.996	1.466	1.621	1.581	1.23	1.27	1.06
December	146.1	162.8	157.6	.990	1.446	1.612	1.560	1.18	1.33	1.09
Year	153.4	155.5	160.8	1.044	1.601	1.623	1.679	1.44	1.24	1.17

Division of Statistical and Historical Research.

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales, Chicago.

TABLE 78.—*Estimated prices of contract grades of corn, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per bushel.[2]	1909–1913 prices raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	0.574	1.019	0.827	0.934	0.682	0.484	0.711
February	167.0	147.2	163.9	.577	.904	.849	.946	.665	.572	.737
March	161.8	148.2	166.0	.590	.955	.874	.979	.649	.575	.740
April	154.5	149.3	166.0	.622	.961	.929	1.033	.578	.588	.793
May	151.4	154.5	162.8	.652	.987	1.007	1.061	.616	.618	.809
June	148.2	156.6	159.7	.615	.956	1.010	1.030	.614	.609	.839
July	147.2	161.8	157.6	.664	.977	1.074	1.046	.614	.643	.857
August	148.2	161.8	156.6	.692	1.026	1.120	1.084	.570	.622	.876
September	147.2	159.7	160.8	.678	.998	1.083	1.090	.539	.635	.884
October	148.2	160.8	159.7	.634	.940	1.019	1.012	.470	.691	1.011
November	147.2	162.8	158.7	.625	.920	1.018	.992	.482	.722	.842
December	146.1	162.8	157.6	.600	.877	.977	.946	.482	.734	.730
Year	153.4	155.5	160.8	.629	.965	.978	1.011	.580	.624	.821

Division of Statistical and Historical Research.

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Bureau of Labor Statistics.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Chicago; from Bureau of Labor Statistics.

TABLE 79.—*Estimated prices of hogs, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per hundredweight.[2]	1909–1913 prices per hundredweight raised with index wholesale prices.[3]			Prices received per hundredweight.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	7.26	12.89	10.46	11.82	9.41	8.02	8.29
February	167.0	147.2	163.9	7.43	12.41	10.94	12.18	9.42	9.90	8.82
March	161.8	148.2	166.0	8.02	12.96	11.89	13.31	10.00	10.43	8.18
April	154.5	149.3	166.0	8.04	12.42	12.00	13.35	8.50	10.31	8.98
May	151.4	154.5	162.8	7.81	11.82	12.07	12.71	8.35	10.48	7.58
June	148.2	156.6	159.7	7.99	11.71	12.37	12.62	8.19	10.33	6.92
July	147.2	161.8	157.6	8.09	11.78	12.94	12.61	9.69	9.70	7.94
August	148.2	161.8	156.6	8.09	11.86	12.94	12.58	9.26	8.01	7.65
September	147.2	159.7	160.8	8.15	12.00	13.02	13.11	7.61	8.75	8.35
October	148.2	160.8	159.7	7.93	11.75	12.75	12.66	7.72	8.80	7.42
November	147.2	162.8	158.7	7.48	11.01	12.18	11.87	7.01	8.07	6.85
December	146.1	162.8	157.6	7.59	10.96	12.21	11.82	6.92	8.18	6.87
Year	153.4	155.5	160.8	7.77	11.92	12.08	11.49	8.51	9.22	7.55

Division of Statistical and Historical Research.

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for corresponding month.
[4] Average cost of packer and shipper purchases, Chicago.

TABLE 80.—*Estimated prices of lard, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per hundredweight.[2]	1909–1913 prices per hundredweight raised with index wholesale prices.[3]			Prices received per hundredweight.[2]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	10.29	18.26	14.83	16.75	16.03	11.19	13.20
February	167.0	147.2	163.9	10.18	17.00	14.98	16.69	14.91	12.59	13.25
March	161.8	148.2	166.0	10.69	17.15	15.71	17.60	14.48	13.50	13.87
April	154.5	149.3	166.0	10.33	15.96	15.42	17.15	13.07	12.62	13.42
May	151.4	154.5	162.8	10.68	16.17	16.50	17.39	11.88	13.15	13.12
June	148.2	156.6	159.7	10.77	15.96	16.87	17.20	12.03	13.22	13.13
July	147.2	161.8	157.6	10.75	15.82	17.39	16.94	13.94	13.06	12.64
August	148.2	161.8	158.6	10.89	16.14	17.62	17.05	13.65	13.30	12.88
September	147.2	159.7	160.8	11.24	16.55	17.95	18.07	13.51	13.00	15.06
October	148.2	160.8	159.7	11.29	16.60	18.01	17.88	12.16	14.12	15.22
November	147.2	162.8	158.7	10.92	16.07	17.78	17.33	11.62	13.78	15.72
December	146.1	162.8	157.6	10.71	15.65	17.44	16.88	11.25	13.31	15.04
Year	153.4	155.5	160.8	10.72	16.44	16.67	17.24	13.21	13.07	13.90

Division of Statistical and Historical Research.

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average price of pure lard, Chicago.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.

TABLE 81.—*Tax per acre and percentage increase on agricultural land outside of incorporated places in South Dakota for 1913, 1919, and 1921. (General property tax.)*

Area.	Tax per acre.[1]			Increase.		
	1913	1919	1921	1913–1919	1913–1921	1919–1921
	Dollars.	*Dollars.*	*Dollars.*	*Per cent.*	*Per cent.*	*Per cent.*
37 eastern counties[2]	0.30	0.79	0.77	163	156	−3
32 western counties[3]	.15	.33	.33	120	120	0
All counties	.24	.54	.55	125	129	2

Division of Agricultural Finance. Compiled from 1914 State Auditor's Report, vol. 2, and the Annual Reports of State Tax Commission for the years 1914, 1920, and 1921–22.

[1] Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922, respectively.
[2] The counties included in the eastern division are: Aurora, Beadle, Bon Homme, Brookings, Brown, Charles Mix, Clark, Clay, Codington, Davison, Day, Deuel, Douglas, Edmunds, Faulk, Grant, Gregory, Hamlin, Hand, Hanson, Hutchinson, Jerauld, Kingsbury, Lake, Lincoln, McCook, McPherson, Marshall, Miner, Minnehaha, Moody, Roberts, Sanborn, Spink, Turner, Union, and Yankton.
[3] All counties not listed in note 2 are included in the western division.

TABLE 82.—*Analysis of taxes levied on agricultural land outside incorporated places in South Dakota, 1913, 1919, and 1921. (General property tax.)*

Area.	Year.	Distribution.					
		State.	County.	Township.	School.	Miscellaneous.	Total.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
37 eastern counties	1913	13.4	33.0	14.2	38.4	1.0	100.0
	1919	16.9	37.0	11.1	35.0	.0	100.0
	1921	12.9	27.0	10.4	49.7	.0	100.0
32 western counties	1913	8.1	43.3	7.0	40.6	1.0	100.0
	1919	11.2	41.5	5.7	41.6	.0	100.0
	1921	7.6	38.9	5.6	47.9	.0	100.0
All counties	1913	11.8	36.2	12.0	39.0	1.0	100.0
	1919	15.3	38.3	9.6	36.8	.0	100.0
	1921	11.3	30.7	9.0	49.0	.0	100.0

Division of Agricultural Finance. (See notes to Table 81.)

TABLE 83.—*Estimated tax per acre and percentage increase on improved farm land for the east-side counties of Washington, by districts, 1914 and 1921. (General property tax.)*

Areas.	Tax per acre.[1]		Increase, 1914–1921.
	1914	1921	
	Dollars.	*Dollars.*	*Per cent.*
Big Bend (5 counties)[2]	0.19	0.63	232
Northeast counties (4 counties)[3]	.49	1.36	178
Palouse area (6 counties)[4]	.37	1.24	235
Central counties (5 counties)[5]	.92	3.88	322
Average east-side (20 counties)	.35	1.18	237

Division of Agricultural Finance. Compiled from Third Biennial Report of State Tax Commission of Washington.

[1] Owing to the lack of complete data, the assessed value of improved agricultural land reported in 1920 was used as the basis of calculations for 1921.
[2] Counties of Lincoln, Adams, Franklin, Grant, and Douglas.
[3] Counties of Pend Oreille, Stevens, Ferry, and Okanogan.
[4] Counties of Spokane, Whitman, Garfield, Asotin, Columbia, and Walla Walla.
[5] Counties of Chelan, Kittitas, Yakima, Klickitat, and Benton.

TABLE 84.—*Increase in delinquent taxes, Kansas, 1917–1922.*

[1917 delinquent taxes=100 per cent.]

Divisions of the State.	1917	1918	1919	1920	1921	1922	Number of counties or parts of counties.	
							In division.	Reporting in table.
Northeastern, general farming	100	122	141	222	343	264	19	7
Southeastern, general farming	100	113	68	82	98	271	20	3
Flint Hills, grazing	100	120	121	126	433	742	10	2
Central, wheat farming	100	153	161	219	489	570	54	10
Western, grazing	100	133	215	275	417	468	16	5

Division of Agricultural Finance. Data supplied by Professor Englund, Kansas State Agricultural College.

TABLE 85.—*Tax per acre and percentage increase on farm land in Kansas for 1913, 1919, and 1921.* (*General property tax.*)

Area.	Tax per acre.[1]			Increase.		
	1913	1919	1921	1913–1919	1913–1921	1919–1921
	Dollars.	*Dollars.*	*Dollars.*	*Per cent.*	*Per cent.*	*Per cent.*
84 eastern counties[2]	0.24	0.39	0.54	63	125	39
21 western counties[3]	.04	.12	.21	200	425	75
All counties	.17	.33	.46	94	171	39
McPherson County	.22	.55	.57	150	159	4
Thomas County	.08	.14	.17	75	113	21

Division of Agricultural Finance. Compiled from the Fourth, Seventh, and Eighth Biennial Reports of the State Tax Commission of Kansas.

[1] Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922, respectively.
[2] All counties not listed in note 3 are included in the eastern division.
[3] The counties included in the western division are: Cheyenne, Finney, Gove, Grant, Gray, Greeley, Hamilton, Haskell, Kearney, Lane, Logan, Morton, Rawlins, Scott, Seward, Sherman, Stanton, Stevens, Thomas, Wallace, Wichita.

TABLE 86.—*Analysis of taxes levied on farm land in Kansas for 1913, 1919, and 1921.* (*General property tax.*)

Area.	Year.	Distribution.					
		State.	County.	Township.	School.	Drainage.	Total.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
84 eastern counties	1913	17.2	35.0	18.7	28.3	0.8	100.0
	1919	16.8	41.6	16.0	25.0	.6	100.0
	1921	18.0	38.5	14.4	28.6	.5	100.0
21 western counties	1913	13.4	40.1	8.5	38.0	.0	100.0
	1919	12.1	45.0	8.5	34.4	.0	100.0
	1921	12.5	35.9	9.1	42.5	.0	100.0
All counties	1913	16.9	35.3	18.1	28.9	.8	100.0
	1919	16.5	41.8	15.5	25.6	.6	100.0
	1921	17.6	38.3	14.0	29.6	.5	100.0

Division of Agricultural Finance. (See notes to Table 85.)

TABLE 87.—*Financial condition of farmers in 15 States of the Middle West, January, 1920, to March, 1923.*

State and Division.	Percentage of farmers who lost farms or property.													
	Owner farmers.					Tenant farmers.				Owner and tenant farmers.				
	Lost farms through foreclosure or bankruptcy.	Lost farms without foreclosure or bankruptcy.	All farmers who lost farms.	Retained farms through leniency of creditors	Lost farms because of land purchased during years 1918–1920.	Lost property through foreclosure or bankruptcy.	Lost property without foreclosure or bankruptcy.	All farmers who lost property.	Retained property through leniency of creditors.	Lost farms or property through foreclosure or bankruptcy.	Lost farms or property without foreclosure or bankruptcy.	All farmers who lost farms or property.	Retained farms or property through leniency of creditors.	Lost farms or property through unwise investments in business enterprises other than farming.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Ohio	2.29	2.97	5.26	6.68	1.52	3.73	5.81	9.54	11.36	2.72	3.82	6.54	8.08	0.60
Indiana	2.20	3.26	5.46	10.57	2.01	5.44	6.29	11.72	18.99	3.25	4.24	7.49	13.26	.36
Illinois	2.34	3.16	5.50	13.42	1.64	4.30	5.22	9.52	21.38	3.19	4.05	7.24	16.87	.38
Michigan	2.60	4.07	6.67	13.12	1.37	7.74	15.47	23.21	15.28	3.52	6.11	9.63	13.51	.19
Wisconsin	2.13	3.42	5.55	9.80	2.19	10.62	12.05	22.67	13.34	3.37	4.68	8.05	10.32	.19
East North Central [1]	2.31	3.38	5.69	10.53	1.74	5.36	7.38	12.74	16.94	3.18	4.51	7.69	12.35	.36
Minnesota	4.43	3.69	8.12	13.12	4.35	12.37	7.16	19.53	24.47	6.41	4.56	10.97	15.95	.28
Iowa	3.84	5.30	9.14	12.18	5.71	6.24	6.79	13.03	18.69	4.85	5.93	10.78	14.93	.62
Missouri	2.90	4.69	7.59	16.76	3.12	6.02	9.04	15.06	28.13	3.81	5.95	9.76	20.06	.41
North Dakota	9.78	5.80	15.58	32.50	1.82	12.01	10.63	22.64	34.94	10.36	7.05	17.41	33.13	.60
South Dakota	6.20	6.42	12.62	20.78	4.72	10.65	10.95	21.60	29.10	7.77	8.02	15.79	23.71	.52
Nebraska	5.06	4.17	9.23	14.86	3.48	7.19	5.80	12.99	20.28	5.98	4.88	10.86	17.21	.87
Kansas	2.94	2.89	5.83	12.22	1.79	5.91	7.47	13.38	18.23	4.15	4.76	8.90	14.67	.49
West North Central [1]	4.34	4.52	8.85	16.02	3.65	7.61	7.76	15.37	23.01	5.47	5.64	11.10	18.43	.52
Montana	16.71	11.07	27.78	33.86	2.13	17.07	14.90	31.97	29.09	16.75	11.51	28.26	33.31	.22
Wyoming	4.39	6.95	11.34	37.92	2.05	16.09	12.41	28.51	33.33	5.89	7.65	13.54	37.33	2.05
Colorado	7.11	7.42	14.53	25.90	5.76	9.55	11.66	21.22	26.92	7.68	8.41	16.09	26.14	1.06
Mountain (3 States) [1]	11.20	9.05	20.25	31.05	3.62	12.33	12.68	25.01	28.12	11.39	9.06	21.06	30.55	.81
Total (15 States [1])	3.83	4.28	8.11	14.40	2.72	6.78	7.75	14.53	20.54	4.74	5.34	10.08	16.28	.46

Division of Agricultural Finance. Data secured from 2,360 selected farmers who reported on 68,533 owner-farmers and 26,994 tenant-farmers in their immediate neighborhoods.

[1] Based on number of farms reported by the Census, January 1, 1920.

TABLE 88.—*Wheat: Disposition of crop in principal States.*

State.	Usual disposition of the crop.				Intended disposition of the 1923 crop.			
	Used for seed.	Fed to live-stock.[1]	Milled in county.	Shipped out of county.	Used for seed.	Fed to live-stock.[1]	Milled in county.	Shipped out of county.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
New York	10	24	35	31	9	29	33	29
Pennsylvania	9	18	40	33	9	23	41	27
Maryland	9	9	29	53	9	13	30	48
Virginia	10	8	64	18	10	10	61	19
North Carolina	10	7	80	3	10	7	80	3
Ohio	10	9	30	51	9	16	29	46
Indiana	9	6	27	58	8	10	28	54
Illinois	7	6	18	69	7	10	16	67
Michigan	9	11	32	48	9	17	31	43
Minnesota	10	7	20	63	10	9	20	61
Iowa	9	8	18	65	8	10	17	65
Missouri	8	8	26	58	7	14	25	54
North Dakota	11	1	6	82	13	4	6	77
South Dakota	10	4	7	79	11	6	5	78
Nebraska	8	4	14	74	9	8	15	68
Kansas	10	4	16	70	17	9	17	57
Kentucky	10	5	70	15	9	8	69	14
Tennessee	10	7	64	19	10	10	64	16
Texas	9	4	26	61	10	12	26	52
Oklahoma	10	8	12	70	9	13	12	66
Montana	8	5	8	79	8	7	8	77
Colorado	7	8	17	68	8	15	17	60
Utah	6	22	40	32	7	25	38	30
Idaho	5	18	9	68	6	18	8	68
Washington	6	10	14	70	5	8	17	70
Oregon	5	12	11	72	5	14	11	70
California	8	13	19	56	8	21	18	53
27 States	8.6	8.1	20.5	62.8	9.3	11.6	20.4	58.7

Division of Crop and Livestock Estimates. Based on estimates of crop reporters, November, 1923.

[1] Because of unsatisfactory wheat price situation at time of inquiry the estimates of "fed to livestock" may be slightly excessive. The ratio of 1923 to usual, however, is felt to reflect the changed situation as it existed in November. The degree to which these expressed intentions materialized was probably affected by subsequent price changes.

TABLE 89.—*Wheat: Imports from Canada; for consumption, duty paid; for milling in bond and export; and imports on which drawback has been allowed, June 1, 1921, to December 31, 1923.*

Year ending June 30.	Total imports from Canada.	Imports for consumption (duty paid).	Imports on which drawback was allowed.	Imports for milling in bond and export.
1921–22.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
June–Sept.	[1] 1,123,947	[1] 676,585	4,638	2,190,180
Oct.–Dec.	4,115,128	2,897,579		
Jan.–Mar.	5,992,151	2,206,737	----------	2,323,332
Apr.–June	3,323,971	2,674,677	----------	1,659,325
Total	14,555,197	8,455,578	4,638	6,172,837
1922–23.				
July–Sept.	5,003,783	2,513,575	----------	2,444,891
Oct.–Dec.	8,322,154	3,165,026	----------	3,998,888
Jan.–Mar.	806,785	1,045,155	----------	1,501,964
Apr.–June	3,879,745	684,394	----------	1,335,044
Total	18,012,467	7,408,150	----------	9,280,787
1923–24.				
July–Sept.	3,666,420	1,052,563	3,201	2,711,185
Oct.–Dec.	11,146,796	5,945,148	9,594	4,440,299
Total	14,813,216	6,997,711	12,795	7,151,484

Division of Statistical and Historical Research. Compiled from records of the Bureau of Foreign and Domestic Commerce.

[1] Four months; Emergency tariff became effective May 28, 1921.

TABLE 90.—*Canadian freight rates on wheat, 1913, 1920, and 1923.*

To Fort William and Port Arthur—	1913, per bushel.[1]	Sept. 13, 1920, per bushel.[2]	1923, per bushel.[3]
From points in:			
Manitoba—	*Cents.*	*Cents.*	*Cents.*
Brandon	7.8	14.1	9.6
Portage la Prairie	7.2	12.9	9.0
Winnipeg	6.0	11.4	8.4
Virden	9.0	15.9	10.8
Saskatchewan—			
Broadview	9.6	17.4	10.8
Shelbrook	[4] 14.4	24.3	15.6
Regina	10.8	19.5	12.0
Saskatoon	14.4	23.8	14.4
Yorkton	10.2	18.3	11.4
Alberta—			
Athabasca	[4] 16.2	26.7	17.4
Calgary	14.4	24.3	15.6
Edmonton	13.8	24.3	15.6
Medicine Hat	13.2	22.8	14.4
Lethbridge	13.8	23.4	15.0

Division of Statistical and Historical Research. Compiled from data of Dominion Bureau of Statistics.

[1] Effective October 7, 1903.
[2] This rate continued in effect until January 1, 1921.
[3] Effective July 6, 1922.
[4] January 1, 1916.

TABLE 91.—*Export rail and water rates to Liverpool on wheat from the producing regions of the United States, Canada, and Argentina, 1923.*

To Liverpool—	Miles.	Rate per bushel.	Total rates per bushel.
FROM CANADA.			
Regina via Port Arthur to Buffalo:		*Cents.*	*Cents.*
1. Regina to Port Arthur	794	12.0	
2. Port Arthur to Buffalo		[1] 3.0	
3. Buffalo to New York		9.1	
Total rate to seaboard		24.1	
4. New York to Liverpool		[2] 4.8	28.9
FROM UNITED STATES.			
Scobey, Mont., via Duluth to Buffalo:			
1. Scobey to Duluth	708	22.5	
2. Duluth to Buffalo		3.0	
3. Buffalo to New York		9.1	
Total rate to seaboard		34.6	
4. New York to Liverpool		[2] 4.8	39.4
McPherson via Gulf:			
1. McPherson to Galveston	974	27.0	
2. Galveston to Liverpool		[2] 8.6	35.6
1. McPherson to New Orleans	771	27.0	
2. New Orleans to Liverpool		[2] 8.6	35.6
FROM ARGENTINA.			
1. Corral de Bustos to Rosario	111	9.5	
2. Rosario to Liverpool		[1] 14.8	24.3
Average haul to Buenos Aires:			
1. Southern Ry	106.25	8.66	
2. Buenos Aires & Pacific Ry	194.00	12.14	
3. Central Argentine Ry	121.00	8.68	
4. Central of Cordoba Ry	132.00	9.53	
5. Buenos Aires & Western Ry	186.00	11.24	
Average to Buenos Aires	145.85	10.05	
Average for Argentina	140.04	9.96	
6. Buenos Aires to Liverpool		[2] 13.8	23.8

Division of Statistical and Historical Research.
Interstate Commerce Commission, United States Shipping Board, Consular Reports, Dominion Bureau of Statistics, International Institute of Agriculture.

[1] Rate in effect on November 19, 1923.
[2] Average rate for nine months, January to September, 1923; all conversions on the basis of average rate of exchange prevailing during these months.

GRAINS OTHER THAN BREAD GRAINS.

CORN.

Table 92.—*Corn: Acreage, production, value, exports, etc., United States, 1869–1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago cash price per bushel, No. 2 mixed.[2] December. Low.	December. High.	Following May. Low.	Following May. High.	Domestic exports including corn meal, fiscal year beginning July 1.[3]	Imports, fiscal year beginning July 1.[3]	Per cent of crop exported.
	1,000 acres.	*Bu. of 56 lbs. shelled.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*	*P. ct.*
1869	37,103	23.6	874,320	59.8	522,551	14.08	56	67	73	85	2,140,487	88,980	0.2
1870	38,647	28.3	1,094,255	49.4	540,520	13.99	41	59	46	52	10,673,553	111,080	1.0
1871	34,091	29.1	991,898	43.4	430,356	12.62	36	39	38	43	35,727,010	58,568	3.6
1872	35,527	30.8	1,092,719	35.3	385,736	10.86	27	28	34	39	40,154,374	61,536	3.7
1873	39,197	23.8	932,274	44.2	411,961	10.51	40	49	49	59	35,985,834	76,003	3.9
1874	41,037	20.7	850,148	58.4	496,271	12.09	64	76	53	67	30,025,036	38,098	3.5
1875	44,841	29.5	1,321,069	36.7	484,675	10.81	40	47	41	45	50,910,532	51,796	3.9
1876	49,033	26.2	1,283,828	34.0	436,109	8.89	40	43	43	56	72,652,611	30,902	5.7
1877	50,369	26.7	1,342,558	34.8	467,635	9.28	41	49	35	41	87,192,110	13,423	6.5
1878	51,585	26.9	1,388,219	31.7	440,281	8.54	30	32	33	36	87,884,892	33,869	6.3
1879	*62,369*	29.2	1,828,163	37.1	676,251	10.84	39	43½	32⅝	36⅛	99,572,329	58,876	5.5
1880	62,318	27.6	1,717,435	39.6	679,714	10.91	35⅝	42	41½	45	93,648,147	75,155	5.5
1881	64,262	18.6	1,194,916	63.6	759,482	11.82	58½	63½	69	76¼	44,340,683	69,621	3.7
1882	65,660	24.6	1,617,025	48.5	783,867	11.94	49¼	61	53½	56¾	41,655,653	25,989	2.6
1883	68,302	22.7	1,551,067	42.4	658,051	9.63	54½	63⅛	52½	57	46,258,606	4,894	3.0
1884	69,684	25.8	1,795,528	35.7	640,736	9.19	34½	40¼	44¾	49	52,876,456	4,507	2.9
1885	73,130	26.5	1,936,176	32.8	635,675	8.69	36	42¾	34¼	36¾	64,829,617	16,104	3.3
1886	75,694	22.0	1,665,441	36.6	610,311	8.06	35¼	38	36¼	39⅜	41,368,584	30,536	2.5
1887	72,393	20.1	1,456,161	44.4	646,107	8.92	47	51⅛	54	60	25,360,869	37,493	1.7
1888	75,673	26.3	1,987,790	34.1	677,562	8.95	33½	35⅞	33⅛	35⅜	70,841,673	2,401	3.6
1889	*72,088*	27.7	1,998,648	27.4	546,984	7.59	29¼	35	32¾	35	103,418,709	1,626	5.2
1890	70,390	20.7	1,460,406	50.0	729,647	10.37	47¾	53	55	69½	32,041,529	2,111	2.2
1891	74,496	27.6	2,055,823	39.7	816,917	10.97	39⅜	59	40¾	[4] 100	76,602,285	15,290	3.7
1892	72,610	23.6	1,713,688	38.8	664,390	9.15	40	42⅞	39½	44½	47,121,894	1,881	2.7
1893	74,434	22.9	1,707,572	35.9	612,998	8.24	34½	36½	36¾	38½	66,489,529	2,199	3.9
1894	69,396	19.3	1,339,680	45.1	604,523	8.71	44¾	47½	47¾	55½	28,585,405	16,575	2.1
1895	85,567	27.0	2,310,952	25.0	578,408	6.76	25	26¾	27½	29½	101,100,375	4,338	4.4
1896	86,560	28.9	2,503,484	21.3	532,884	6.16	22⅛	23⅞	23	25½	178,817,417	6,284	7.1
1897	88,127	24.3	2,144,553	26.0	558,309	6.34	25	27⅛	32⅜	37	212,055,543	3,417	9.9
1898	88,304	25.6	2,261,119	28.4	642,747	7.28	33⅛	38	32½	34⅜	177,255,046	4,171	7.8
1899	*94,914*	25.9	2,454,628	29.9	734,916	7.74	30	31½	36	40½	213,123,412	2,480	8.7
1900	95,042	26.4	2,505,148	35.1	878,243	9.24	35½	40½	42⅜	58½	181,405,473	5,169	7.2
1901	94,636	17.0	1,613,528	60.1	969,285	10.24	62½	67½	59⅜	64¾	28,028,688	18,278	1.7
1902	95,517	27.4	2,619,499	40.1	1,049,791	10.99	43¾	57¾	44	46	76,639,261	40,919	2.9
1903	90,661	25.9	2,346,897	42.1	987,882	10.90	41	43¾	47½	50	58,222,061	16,633	2.5
1904	93,340	27.1	2,528,662	43.7	1,105,690	11.85	43½	49	48	64½	90,293,483	15,443	3.6
1905	93,573	29.4	2,748,949	40.8	1,120,513	11.97	42	50¼	47½	50	119,893,833	10,127	4.4
1906	93,643	30.9	2,897,662	39.3	1,138,053	12.15	40	46	49½	56	86,368,228	10,818	3.0
1907	94,971	26.5	2,512,065	50.9	1,277,607	13.45	57½	61½	67¾	52	55,063,860	20,312	2.2
1908	95,603	26.6	2,544,957	60.0	1,527,679	15.98	56¾	62¼	72¼	76	37,665,040	258,065	1.5
1909	*98,383*	26.1	2,572,336	58.6	1,507,185	15.32	62½	66	56	63	38,128,498	----------	1.5
1910	104,035	27.7	2,886,260	48.0	1,384,817	13.31	45½	50	52¼	55¼	65,614,522	----------	2.3
1911	105,825	23.9	2,531,488	61.8	1,565,258	14.79	68	70	76⅜	82½	41,797,291	53,425	1.7
1912	107,083	29.2	3,124,746	48.7	1,520,454	14.20	47½	54	55¼	60	50,780,143	903,062	1.6
1913	105,820	23.1	2,446,988	69.1	1,692,092	15.99	64	73½	67	72½	10,725,819	12,367,369	.4
Aver.	104,229	26.0	2,712,364	56.6	1,533,961	14.72	57.5	62.7	61.4	66.6	41,409,255	2,664,771	1.5
1914	103,435	25.8	2,672,804	64.4	1,722,070	16.65	62½	68¼	50½	56	50,668,303	9,897,939	1.3
1915	106,197	28.2	2,994,793	57.5	1,722,680	16.22	69½	75	69	78½	39,896,928	5,208,497	2.6
1916	105,296	24.4	2,566,927	88.9	2,280,729	21.66	88	96	152	174	66,753,294	2,267,299	1.6
1917	116,730	26.3	3,065,233	127.9	3,920,228	33.58	160	190	150	170	49,073,263	3,196,420	.9
1918	104,467	24.0	2,502,665	136.5	3,416,240	32.70	135	155	160½	185	23,018,822	3,311,211	.6
1919	97,170	28.9	2,811,302	134.5	3,780,597	38.91	142	160	189	217	16,707,447	10,229,249	2.2
1920	101,699	31.5	3,208,584	67.0	2,150,332	21.14	70½	86	59	66	70,905,781	5,743,384	5.9
Aver.	104,999	27.0	2,831,758	95.8	2,713,268	25.84	103.9	118.6	118.6	135.2	45,289,120	5,693,428	1.6
1921	103,740	29.6	3,068,569	42.3	1,297,213	12.50	46¾	51½	59½	65	179,490,442	124,591	5.8
1922	102,846	28.3	2,906,020	65.8	1,910,775	18.58	69½	77½	78	87½	96,599,093	137,529	3.3
1923[5]	104,158	29.3	3,054,395	72.7	2,222,013	21.33	69¾	87	-----	-----	------------	----------	---

Division of Crop and Livestock Estimates. Figures in italics are Census returns.

[1] Based upon farm price Dec. 1.
[2] Chicago Daily Trade Bulletin. No. 2 to 1908. Contract to 1915.
[3] Compiled from reports of Bureau of Foreign and Domestic Commerce.
[4] Coincident with "corner."
[5] Preliminary.

TABLE 93.—*Corn: Acreage, production, and farm value in six leading States, 1866–1923.*[1]

Calendar year.	Acreage.	Yield per acre.	Production.	Farm price per bu. Dec. 1.	Farm value Dec. 1.	Calendar year.	Acreage.	Yield per acre.	Production.	Farm price per bu. Dec 1.	Farm value Dec. 1.
	1,000 acres.	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*		*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*
1866	14,307	33.9	484,490	32.8	159.007	1901	44,000	19.4	854,700	55.8	476,642
1867	13,077	27.5	359,943	48.5	174,496	1902	44,100	36.0	1,586,655	34.5	547,853
1868	12,696	33.8	428,719	36.5	156,663	1903	40,150	30.2	1,211,020	36.0	435,967
1869	15,806	27.1	428,500	48.0	205,659	1904	42,750	32.4	1,385,135	38.0	526,365
1870	16,953	35.1	595,847	34.8	207,374	1905	42,350	36.4	1,540,860	36.5	562,287
1871	14,658	38.6	565,739	29.6	167,573	1906	41,900	36.9	1,546,895	34.6	534,941
1872	15,815	39.1	617,836	23.6	145,596	1907	42,350	31.5	1,335,330	44.8	598,742
1873	18,859	25.6	482,942	32.7	158,130	1908	41,850	30.5	1,277,785	56.0	715,100
1874	19,832	23.3	461,894	48.9	225,914						
1875	22,479	35.0	786,000	28.7	225,536	1909	42,472	32.3	1,370,094	52.2	715,537
						1910	43,405	34.9	1,516,781	39.3	595,855
1876	24,641	28.7	707,500	28.2	199,542						
1877	24,610	30.5	750,500	28.6	214,572	1911	43,575	30.1	1,313,765	55.5	728,854
1878	25,194	31.6	795,369	23.9	190,196	1912	44,958	36.9	1,658,635	40.3	667,979
1879	29,814	36.1	1,076,944	28.8	309,992	1913	44,185	26.8	1,186,312	63.1	748,416
1880	29,877	31.5	939,786	33.6	315,724						
						Aver.	43,719	32.2	1,409,117	49.1	691,328
1881	30,398	21.8	661,382	54.2	358,648						
1882	29,234	27.7	811,143	43.8	355,365	1914	43,493	30.5	1,327,840	58.7	778,890
1883	30,182	26.7	805,529	36.1	290,459	1915	42,675	33.3	1,422,150	52.5	747,191
1884	31,171	32.3	1,007,244	27.6	277,954	1916	43,162	29.7	1,280,295	83.1	1,063,962
1885	32,669	33.1	1,081,640	26.0	281,399	1917	47,656	35.0	1,666,556	115.7	1,928,148
						1918	41,747	29.9	1,248,696	124.7	1,557,436
1886	33,557	26.0	873,502	30.0	262,159	1919	40,355	35.2	1,418,481	125.2	1,776,447
1887	31,192	22.6	703,878	38.3	269,718	1920	42,384	38.3	1,623,991	54.3	881,423
1888	32,661	34.3	1,121,588	27.8	311,370						
1889	33,777	34.0	1,147,578	22.2	254,208	Aver.	43,067	33.1	1,426,858	87.4	1,247,642
1890	33,400	24.5	816,710	44.4	362,914						
						1921	41,267	35.2	1,452,111	34.5	501,127
1891	35,700	33.7	1,204,090	34.0	409,267	1922	41,317	35.5	1,465,381	59.6	873,069
1892	34,200	27.9	954,930	34.9	333,532	1923[2]	43,274	36.7	1,588,939	63.8	1,013,584
1893	35,075	27.5	965,700	30.2	292,014						
1894	30,500	21.7	661,150	40.6	268,468						
1895	40,440	31.9	1,290,754	20.8	268,360						
1896	41,280	36.8	1,519,740	16.8	255,317						
1897	41,780	29.9	1,248,975	20.3	253,620						
1898	41,000	30.2	1,236,900	24.7	304,897						
1899	43,154	32.0	1,380,602	26.0	358,618						
1900	43,950	34.0	1,493,100	30.8	459,374						

Division of Crop and Livestock Estimates.

[1] Iowa, Illinois, Nebraska, Missouri, Indiana, and Ohio.
[2] Preliminary.

TABLE 94.—*Corn: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Maine	30	19	18	1,500	779	684	1,155	779	766
New Hampshire	24	27	26	1,272	1,161	1,092	954	871	1,212
Vermont	81	85	84	4,455	3,570	3,276	3,386	3,249	3,604
Massachusetts	65	61	59	3,120	2,440	2,537	2,402	2,294	2,918
Rhode Island	14	13	12	644	520	456	708	624	594
Connecticut	74	77	76	3,848	3,465	3,116	3,468	3,326	3,394
New York	798	798	758	36,708	28,329	24,539	24,594	23,513	24,559
New Jersey	241	231	236	11,327	9,702	9,440	6,003	6,791	8,968
Pennsylvania	1,589	1,573	1,541	76,272	62,212	61,080	41,950	49,838	56,092
Delaware	185	189	183	6,845	5,857	6,057	3,999	3,899	4,996
Maryland	645	642	642	25,155	25,060	25,731	12,326	17,462	20,689
Virginia	1,994	1,886	1,847	47,960	52,248	53,568	32,844	41,276	50,349
West Virginia	592	594	592	20,128	20,536	20,128	15,006	17,250	19,927
North Carolina	2,552	2,577	2,603	49,254	51,540	58,568	38,418	45,873	59,739
South Carolina	2,022	2,022	1,980	32,352	29,499	32,670	23,940	26,612	34,304
Georgia	4,665	4,365	4,224	62,975	52,620	49,215	37,667	45,253	52,620
Florida	788	775	820	11,032	10,850	10,250	5,847	9,440	10,250
Ohio	3,785	3,823	3,899	155,185	149,097	159,859	63,626	98,404	118,296
Indiana	4,718	4,765	5,003	169,848	176,905	192,616	92,844	96,731	119,423
Illinois	8,999	8,819	8,995	305,966	313,074	337,312	116,207	187,844	219,253
Michigan	1,703	1,720	1,686	66,417	60,716	58,167	31,880	40,680	45,370
Wisconsin	2,110	2,399	2,253	97,482	99,800	83,261	44,842	61,929	66,689
Minnesota	3,620	3,979	4,227	156,620	131,307	154,692	48,552	73,532	94,362
Iowa	10,350	10,364	10,571	439,560	466,380	430,240	129,150	261,173	266,749
Missouri	6,696	6,250	6,562	182,880	178,125	196,860	73,152	121,125	145,676
North Dakota	620	780	842	17,360	21,450	28,207	5,902	11,368	15,232
South Dakota	3,926	3,861	4,208	125,632	116,988	145,176	32,664	55,019	75,492
Nebraska	7,419	7,296	8,244	207,732	182,400	272,052	56,068	105,792	144,188
Kansas	4,358	5,096	5,629	96,748	98,391	122,149	29,992	60,019	78,175
Kentucky	3,299	3,145	3,063	82,150	88,060	87,966	45,182	60,761	74,096
Tennessee	3,516	3,280	3,018	90,713	75,440	73,941	47,171	59,598	69,595
Alabama	4,042	3,036	3,310	58,609	50,904	48,988	36,338	45,814	52,907
Mississippi	3,172	2,855	2,327	57,096	49,962	33,742	31,974	42,468	36,104
Louisiana	1,796	1,706	1,604	35,022	29,002	24,792	22,764	24,072	25,937
Texas	6,227	5,729	5,213	156,920	114,580	96,440	84,737	96,101	96,440
Oklahoma	3,077	3,200	3,264	76,925	57,600	37,536	24,616	40,320	32,656
Arkansas	2,640	2,250	2,002	58,080	43,875	39,039	33,106	37,294	39,429
Montana	100	228	365	3,800	5,540	9,490	2,546	2,936	6,168
Wyoming	56	112	150	1,232	2,688	4,050	616	1,613	2,835
Colorado	1,102	1,145	1,490	15,979	18,320	37,250	4,953	12,091	24,212
New Mexico	290	236	221	6,380	3,210	3,624	5,742	2,682	3,443
Arizona	35	39	33	1,015	1,170	990	1,015	1,346	1,188
Utah	21	32	31	517	781	772	393	664	733
Nevada	1	1	1	29	21	23	35	22	29
Idaho	47	52	73	1,645	1,976	3,066	822	1,561	2,361
Washington	64	67	74	2,560	2,747	2,738	2,202	2,884	2,601
Oregon	66	69	71	1,980	2,277	2,485	1,663	2,072	2,236
California	116	116	128	4,060	4,176	4,480	3,126	4,176	4,838
United States	103,740	102,846	104,158	3,068,569	2,906,020	3,054,395	1,297,213	1,910,775	2,222,013

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 95.—*Corn: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	40.5	38.0	46.0	44.0	40.0	38.0	41.2	46.0	41.0	43.0	37.0	45.0	55.0	45.0	44.6	50.0	41.0	38.0
New Hampshire	39.0	35.1	46.0	45.0	40.0	37.0	41.8	46.0	45.0	46.0	40.0	45.0	46.5	45.0	44.8	53.0	43.0	42.0
Vermont	40.3	37.0	43.0	41.0	40.0	37.0	39.6	47.0	46.0	43.0	45.0	38.0	46.5	47.0	44.6	55.0	42.0	39.0
Massachusetts	40.4	38.0	45.5	44.0	45.0	40.5	42.6	47.0	47.0	42.0	45.0	32.0	52.5	40.0	46.5	48.0	40.0	43.0
Rhode Island	42.8	33.2	40.0	45.0	41.5	36.5	39.2	42.0	43.0	31.0	42.0	44.0	45.0	40.0	41.0	46.0	40.0	38.0
Connecticut	41.3	41.0	53.2	48.5	50.0	38.5	46.2	46.0	50.0	43.0	50.0	50.0	50.0	40.0	47.0	52.0	45.0	41.0
New York	38.8	36.0	38.3	38.5	38.0	28.5	36.0	41.0	40.0	30.0	31.0	36.0	43.0	40.0	37.3	46.0	35.5	32.4
New Jersey	38.0	32.7	36.0	36.8	38.0	29.5	36.6	36.5	38.0	40.0	42.0	41.0	40.0	44.0	40.5	47.0	42.0	40.0
Pennsylvania	39.5	32.0	41.0	44.5	42.5	39.0	39.8	42.5	38.5	39.0	39.0	40.0	47.0	45.0	41.6	48.0	44.0	40.0
Delaware	32.0	31.0	31.8	34.0	34.0	31.5	32.5	36.0	31.5	34.0	34.0	31.0	30.0	37.5	33.4	37.0	29.4	33.1
Maryland	36.6	31.4	33.5	36.5	36.5	33.0	34.2	37.0	35.0	39.0	39.0	35.0	41.0	38.5	37.8	39.0	40.0	36.3
Virginia	26.0	23.2	25.5	24.0	24.0	26.0	24.5	20.5	28.5	28.0	27.0	28.0	28.0	30.0	27.1	25.0	28.0	29.0
West Virginia	31.2	31.4	26.0	25.7	33.8	31.0	29.6	31.0	31.5	30.5	39.0	31.0	34.0	34.0	31.7	34.0	34.0	34.0
North Carolina	18.0	16.8	18.6	18.4	18.2	19.5	18.3	20.3	21.0	18.5	20.0	21.0	19.0	22.5	20.3	19.3	20.0	22.5
South Carolina	14.1	16.7	18.5	18.2	17.9	19.5	18.2	18.5	16.5	15.5	19.0	17.0	16.0	19.0	17.4	16.0	14.5	16.5
Georgia	12.5	13.9	14.5	16.0	13.8	15.5	14.7	14.0	15.0	15.5	16.0	15.0	14.5	15.0	15.0	15.0	12.0	12.2
Florida	10.5	12.6	13.0	14.6	13.0	15.0	13.6	16.0	15.0	15.0	15.0	16.0	15.0	13.5	15.1	14.0	14.0	12.5
Ohio	38.5	39.5	36.5	38.6	42.8	37.5	39.0	39.1	41.5	31.5	38.0	36.0	43.0	43.4	38.9	41.0	39.0	41.0
Indiana	30.3	40.0	39.3	36.0	40.3	36.0	38.3	33.0	38.0	34.0	36.0	33.0	37.0	40.5	35.9	36.9	37.0	38.5
Illinois	31.6	36.9	39.1	33.0	40.0	27.0	35.0	29.0	36.0	29.5	38.0	35.5	36.0	34.6	34.1	34.0	35.5	37.5
Michigan	31.8	35.4	32.4	33.0	34.0	33.5	33.7	36.0	32.0	27.5	21.5	30.0	37.0	39.0	31.9	39.0	35.3	34.5
Wisconsin	33.7	33.0	32.5	36.3	35.7	40.5	35.6	40.5	23.0	36.0	22.0	40.0	45.0	43.2	35.7	46.2	44.5	37.0
Minnesota	29.0	34.8	32.7	33.7	34.5	40.0	35.1	35.0	23.0	33.5	30.0	40.0	40.0	37.5	34.1	41.0	33.0	34.0
Iowa	31.7	31.5	36.3	31.0	43.0	34.0	35.2	38.0	30.0	36.5	37.0	36.0	41.6	46.0	37.9	42.0	45.0	40.7
Missouri	27.0	26.4	33.0	26.0	32.0	17.5	27.0	22.0	29.5	19.5	35.0	20.0	27.0	32.0	26.4	30.0	28.5	30.0
North Dakota	23.8	31.0	14.0	25.0	26.7	28.8	25.1	28.0	14.0	26.5	9.0	19.0	33.0	24.0	21.9	28.0	27.5	33.5
South Dakota	29.7	31.7	25.0	22.0	30.6	25.5	27.0	26.0	29.0	28.5	28.0	34.0	28.5	30.0	29.1	32.0	28.5	34.5
Nebraska	27.0	24.8	25.8	21.0	24.0	15.0	22.1	24.5	30.0	26.0	27.0	17.7	26.2	33.8	26.5	28.0	25.0	33.0
Kansas	22.0	19.9	19.0	14.5	23.0	8.2	15.9	18.5	31.0	10.0	13.0	7.1	15.2	30.5	17.3	22.2	19.3	21.7
Kentucky	25.2	29.0	29.0	26.0	30.4	20.5	27.0	25.0	30.0	28.0	31.5	36.0	24.0	30.5	27.9	25.6	28.0	28.5
Tennessee	24.8	22.0	25.9	26.8	26.5	20.5	24.3	24.0	27.0	26.0	29.0	24.0	21.4	28.0	25.6	25.8	23.9	24.5
Alabama	14.7	13.5	18.0	18.0	17.2	17.3	16.8	17.0	17.0	12.5	16.0	14.6	14.5	15.7	15.3	14.5	14.0	14.8
Mississippi	17.3	14.5	20.5	19.0	18.3	20.0	18.5	18.5	19.0	14.0	20.5	17.0	15.0	16.0	17.1	18.0	17.5	14.5
Louisiana	19.8	23.0	23.6	18.5	18.0	22.0	21.0	19.3	20.5	21.0	18.0	16.0	17.5	19.2	18.8	19.5	17.0	15.4
Texas	25.7	15.0	20.6	9.5	21.0	24.0	18.0	19.5	23.5	19.0	11.0	10.0	30.0	26.0	19.9	25.2	20.0	18.5
Oklahoma	24.8	17.0	16.0	6.5	18.7	11.0	13.8	12.5	29.5	13.5	8.5	7.5	24.0	28.0	17.6	25.0	18.0	11.5
Arkansas	20.2	18.0	24.0	20.8	20.4	19.0	20.4	17.5	23.0	17.7	24.0	13.0	18.0	23.4	19.5	22.0	19.5	19.5
Montana	23.4	35.0	23.0	26.5	25.5	31.5	28.3	28.0	28.0	25.0	12.5	21.0	4.0	12.1	18.7	20.0	24.3	26.0
Wyoming	28.0	28.0	10.0	15.0	23.0	29.0	21.0	25.0	25.0	22.0	29.0	25.0	16.0	24.0	22.4	22.0	24.0	27.0
Colorado	20.2	24.2	19.9	14.0	20.8	15.0	18.8	23.0	24.0	15.5	20.0	17.5	15.0	20.5	19.4	14.5	16.0	25.0
New Mexico	27.0	31.3	23.0	24.7	22.4	18.5	24.0	28.0	26.0	21.0	20.0	25.0	21.6	21.7	23.3	22.0	13.6	16.4
Arizona	33.2	32.1	32.5	33.0	33.0	28.0	31.7	32.0	30.0	35.0	27.0	28.0	29.0	22.0	29.0	29.0	30.0	30.0
Utah	29.4	31.4	30.3	35.0	30.0	34.0	32.1	35.0	34.0	33.0	25.0	28.0	19.2	21.9	28.0	24.6	24.4	24.9
Nevada	----	----	30.0	30.5	30.0	34.0	31.1	36.0	35.0	34.0	30.0	32.0	26.9	32.0	32.3	29.1	21.1	22.3
Idaho	29.0	30.6	32.0	30.0	32.8	32.0	31.5	31.0	35.0	35.0	31.0	40.0	32.0	36.0	34.3	35.0	38.0	42.0
Washington	25.5	27.8	28.0	28.5	27.3	28.0	27.9	27.0	27.0	37.0	37.0	38.0	36.0	36.0	34.0	40.0	41.0	37.0
Oregon	27.8	30.7	25.5	28.5	31.5	28.5	28.9	30.0	35.0	33.5	30.0	31.0	26.5	31.0	31.0	30.0	39.3	35.0
California	32.0	34.8	37.5	36.0	37.0	33.0	35.7	36.0	41.0	32.0	32.0	35.0	32.0	33.0	34.4	35.0	36.0	35.0
United States	26.6	26.1	27.7	23.9	29.2	23.1	26.0	25.8	28.2	24.4	26.3	24.6	28.9	31.5	27.0	29.6	28.3	29.3

Division of Crop and Livestock Estimates.

TABLE 96.—*Corn: Condition of crop, first of month, and yield per acre, United States, 1866–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1866	93.5	102.4	------	90.4	25.3	1896	92.4	96.0	91.0	90.5	28.9
1867	100.1	113.3	107.5	105.8	23.6	1897	92.9	84.2	79.3	77.1	24.3
1868	101.6	113.4	104.3	103.8	26.0	1898	90.5	87.0	84.1	82.0	25.6
1869	89.7	87.5	90.5	88.0	23.6	1899	86.5	89.9	85.2	82.7	25.9
1870	104.1	104.7	111.2	111.2	28.3	1900	89.5	87.5	80.6	78.2	26.4
1871	105.9	100.6	97.3	99.1	29.1	1901	81.3	54.0	51.7	52.1	17.0
1872	96.8	105.2	106.2	108.0	30.8	1902	87.5	86.5	84.3	79.6	27.4
1873	90.2	90.8	82.8	84.0	23.8	1903	79.4	78.7	80.1	80.8	25.9
1874	99.2	90.0	83.0	86.0	20.7	1904	86.4	87.3	84.6	83.9	27.1
1875	96.0	96.0	97.0	99.9	29.5						
						1905	87.3	89.0	89.5	89.2	29.4
1876	97.0	100.0	99.0	101.2	26.2	1906	87.5	88.0	90.2	90.1	30.9
1877	85.0	92.0	91.0	------	26.7	1907	80.2	82.8	80.2	78.0	26.5
1878	95.0	96.0	92.0	96.0	26.9	1908	82.8	82.5	79.4	77.8	26.6
1879	93.0	93.0	95.0	88.0	29.2						
1880	100.0	98.0	91.0	------	27.6	1909	89.3	84.4	74.6	73.8	26.1
						1910	85.4	79.3	78.2	80.3	27.7
1881	90.0	77.0	60.0	66.0	18.6	1911	80.1	69.6	70.3	70.4	23.9
1882	85.0	83.0	83.0	81.0	24.6	1912	81.5	80.0	82.1	82.2	29.2
1883	88.0	89.0	84.0	78.0	22.7	1913	86.9	75.8	65.1	65.3	23.1
1884	96.0	96.0	94.0	93.0	25.8						
1885	94.0	96.0	95.0	95.0	26.5	Av. 1909–1913	84.6	77.8	74.1	74.4	26.0
1886	95.2	80.7	76.6	80.0	22.0	1914	85.8	74.8	71.7	72.9	25.8
1887	97.7	80.5	72.3	72.8	20.1	1915	81.2	79.5	78.8	79.7	28.2
1888	93.0	95.5	94.2	92.0	26.3	1916	82.0	75.3	71.3	71.5	24.4
1889	90.3	94.8	90.9	91.7	27.7	1917	81.1	78.8	76.7	75.9	26.3
1890	93.1	73.3	70.1	70.6	20.7	1918	87.1	78.5	67.4	68.6	24.0
						1919	86.7	81.7	80.0	81.3	28.9
1891	92.8	90.8	91.1	92.5	27.6	1920	84.6	86.7	86.4	89.1	31.5
1892	81.1	82.5	79.6	79.8	23.6						
1893	93.2	87.0	76.7	75.1	22.9	Av. 1914–1920	84.1	79.3	76.0	77.0	27.0
1894	95.0	69.1	63.4	64.2	19.3						
1895	99.3	102.5	96.4	95.5	27.0	1921	91.1	84.3	85.1	84.8	29.6
						1922	85.1	85.6	78.6	78.4	28.3
						1923	84.9	84.0	83.3	82.0	29.3

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 97.—*Corn: Percentage reduction from full yield per acre, from stated causes, as estimated by crop reporters, 1909–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	13.0	7.3	1.5	1.0	0.5	1.6	0.7	25.8	0.2	2.3	0.4	0.3	29.6
1910	13.9	3.0	.8	.9	.4	1.6	.5	21.3	.2	2.3	.4	1.2	26.0
1911	23.4	1.6	(2)	.4	.2	3.4	.1	29.6	.2	2.3	.2	.4	33.7
1912	8.7	4.6	.9	1.7	.5	1.0	.3	18.1	.3	4.8	.3	2.3	26.3
1913	27.1	1.2	.4	1.0	.3	3.1	.4	33.7	.1	3.7	.2	.4	38.9
1914	20.8	1.3	.4	.4	.5	2.1	.4	26.1	.1	3.6	.1	.2	30.6
1915	3.0	11.9	2.1	6.9	.6	.2	1.1	26.5	.3	2.1	.1	.2	29.9
1916	18.5	5.8	1.7	1.7	.4	1.7	1.1	31.3	.3	2.0	.1	.6	34.7
1917	12.1	2.9	.6	13.5	.6	1.2	.3	31.6	.3	1.4	.1	.2	33.8
1918	22.1	.9	.5	2.0	.4	6.3	3.2	32.8	.8	2.6	.1	1.5	37.7
1919	10.8	7.3	1.4	.1	.3	1.0	.4	21.4	.4	3.1	.1	.2	25.4
1920	5.4	3.3	.6	.7	.5	.3	.4	11.3	.3	3.6	.1	.3	15.9
1921	10.6	1.1	.3	.2	.4	1.0	.6	14.1	.8	3.4	------	.1	18.7
1922	14.2	2.3	.5	.2	1.0	1.0	.2	19.3	.4	3.0	.1	.2	23.0

Division of Crop and Livestock Estimates.

[1] Includes all other causes.
[2] Less than 0.05 per cent.

TABLE 98.—*Corn: Area and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Acreage.					Yield per acre.[1]				
	Average 1909–1913.	1920	1921	1922	1923, preliminary.	Average, 1909–1913.	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
Canada	309	292	297	318	318	56.0	49.1	50.2	43.4	51.5
United States	104,229	101,699	103,740	102,846	104,158	26.0	31.5	29.6	28.3	29.3
Mexico	[2] 6,093	.....	2,545	4,284	.....	13.5	.....	24.0	15.9	.....
Guatemala	.....	553	310	455	457	.....	7.3	18.3	11.9	17.2
Total comparable with 1909–1913	110,631	.....	106,582	107,448	.....	.....	.....	.....	.....	.....
Total comparable with 1923	.....	102,544	104,347	103,619	104,933	.....	.....	.....	.....	.....
EUROPE.										
France	[3] 1,155	829	814	790	760	19.3	18.4	12.8	16.0	15.6
Spain	1,134	1,168	1,178	1,159	1,166	23.4	23.7	21.1	23.2	20.5
Portugal	.....	734	714	.....	.....	.....	16.0	15.9	.....	.....
Italy	3,973	3,710	3,717	3,811	3,707	25.2	24.1	24.8	20.2	22.7
Switzerland	3	6	5	4	4	.....	.....	.....	.....	.....
Australia	[3] 192	102	112	148	145	23.4	20.9	22.5	23.5	25.3
Czechoslovakia	.....	376	385	392	397	.....	25.7	24.5	25.2	26.3
Hungary	[3] 7,089	2,017	2,167	2,445	2,465	27.4	24.9	14.6	19.9	22.4
Yugoslavia	.....	4,486	4,646	4,706	.....	.....	22.5	15.9	18.9	.....
Greece	[3] 273	519	494	.....	.....	21.8	17.6	15.9	.....	.....
Bulgaria	[3] 1,519	1,407	1,421	1,313	1,075	18.0	14.8	11.5	11.8	20.5
Rumania	[4] 7,042	8,143	8,510	8,411	8,059	19.1	22.4	13.0	13.1	21.6
Poland	.....	108	132	183	189	.....	10.0	17.2	15.2	.....
Russia, including Ukraine and Northern Caucasia	[5] 2,031	.....	.....	5,410	.....	17.9	.....	.....	12.5	.....
Total comparable with 1909–1913	24,411	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	.....	17,866	18,441	18,656	17,967	.....	.....	.....	.....	.....
AFRICA.										
Morocco, Western	.....	486	612	535	.....	.....	8.0	9.6	8.5	.....
Algeria	34	22	24	19	22	17.6	11.5	14.8	14.5	7.0
Tunis	43	25	55	.....	44	5.3	4.4	6.4	.....	6.5
Egypt	1,778	1,938	2,086	2,027	.....	36.1	33.0	33.8	36.3	.....
Total comparable with 1909–1913	1,855	1,985	2,165	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	77	47	79	.....	66	.....	.....	.....	.....	.....
ASIA.										
India, British	[6] 5,898	6,620	6,164	6,186	.....	14.0	15.6	13.5	15.6	.....
Russia (Asiatic)	1,215	.....	.....	11	.....	13.0	.....	.....	2.3	.....
Japanese Empire:										
Japan	133	150	153	.....	.....	25.5	26.3	27.7	.....	.....
Chosen	156	223	.....	227	.....	14.3	11.1	.....	12.8	.....
Philippines	[7] 812	1,327	1,344	1,359	1,378	9.2	12.8	11.8	10.9	12.1
Total comparable with 1909–1913	[8] 8,214	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	812	1,327	1,344	1,359	1,378	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1909–1913	145,111	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1923	.....	121,784	124,211	.....	124,344	.....	.....	.....	.....	.....

[1] Yield per acre not computed when acreage is less than 12,000 acres.
[2] One year only.
[3] Old boundaries.
[4] Includes Bessarabia.
[5] Preliminary estimate of former Russian territory within 1923 boundaries.
[6] Two-year average.
[7] Four-year average.

TABLE 98.—*Corn: Area and yield per acre in undermentioned countries*—Con.
SOUTHERN HEMISPHERE.

Country.	Acreage.					Yield per acre.[1]				
	Average 1909–1913.	1920	1921	1922	1923, preliminary	Average, 1909–1913.	1920	1921	1922	1923, preliminary.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
Chile	56	62	69	79	68	26.0	23.3	24.4	22.5	26.9
Uruguay	551	552	494	547	771	10.9	11.9	9.3	8.6	11.2
Argentina	8,710	8,194	8,090	7,344	7,851	22.0	31.6	28.5	24.0	19.5
Union of South Africa	[2] 2,290	4,003	3,815	.....	.....	14.6	8.4	9.1	.....	.....
Southern Rhodesia	[2] 161	173	186	181	230	11.4	23.1	23.4	13.1	23.5
Java and Madura	.....	4,785	4,865	[3] 857	4,030	.....	12.8	12.2	12.2	12.4
Australia	353	265	234	305	.....	23.5	25.5	25.6	25.7	.....
New Zealand	[2] 5	9	12	11	10	.....	.....	.....	.....	.....
Total comparable with 1909–1913	12,126	13,243	12,950	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	8,710	13,765	13,736	12,049	12,950	.....	.....	.....	.....	.....
World total comparable with 1909–1913	157,237	.....	.....	.....	.....	.....	.....	.....	.....	.....
Worlds total comparable with 1923	.....	135,549	137,947	.....	137,294	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

[1] Yield per acre not computed when acreage is less than 12,000 acres.
[2] One year only.
[3] Two-year average.

TABLE 99.—*Corn: Production in undermentioned countries.*
NORTHERN HEMISPHERE.

Country.	Average, 1909–1913	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels*	*1,000 bushels.*	*1,000 bushels*	*1,000 bushels.*	*1,000 bushels.*
Canada	17,297	7,763	14,205	16,941	14,335	14,904	13,798	16,376
United States	2,712,364	3,065,233	2,502,665	2,811,302	3,208,584	3,068,569	2,906,020	3,054,396
Mexico	[1] 82,519	.....	75,985	.....	.....	61,020	68,260	.....
Guatemala	[1] 5,090	10,384	7,641	4,939	4,062	5,674	5,412	7,874
Total comparable with 1909–1913	2,817,270	.....	2,600,496	.....	.....	3,150,167	2,993,490	.....
Total comparable with 1923	2,734,751	3,083,380	2,524,511	2,833,182	3,226,981	3,089,147	2,925,230	3,078,645
EUROPE.								
France	[2] 22,289	14,902	9,760	9,976	15,267	10,393	12,676	11,857
Spain	26,548	29,369	24,141	25,555	27,392	24,897	26,832	23,925
Portugal	.....	9,907	9,345	9,753	11,721	11,374	.....	.....
Italy	100,317	82,771	76,590	85,846	89,298	92,325	76,830	83,995
Switzerland	113	276	358	287	280	218	185	165
Austria	[2] 4,488	2,810	2,291	2,115	2,129	2,521	3,477	3,671
Czechoslovakia	.....	.....	.....	.....	9,648	9,432	9,884	10,455
Hungary	[2] 194,063	.....	.....	.....	50,156	31,703	48,725	55,188
Yugoslavia	.....	.....	.....	.....	101,136	73,788	89,136	.....
Greece	[1] 5,952	6,112	6,466	7,551	9,133	7,874	.....	.....
Bulgaria	[2] 27,375	17,423	8,463	25,457	20,851	16,380	15,479	22,007
Rumania	[3] 134,447	.....	31,318	141,352	182,031	110,933	110,552	174,124
Poland	[4] 2	.....	.....	.....	1,062	2,266	2,776	.....
Russia (including Ukraine and Northern Caucasia)	[4] 36,392	.....	.....	.....	.....	.....	67,427	.....
Total comparable with 1909–1913	551,986	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	.....	.....	.....	.....	397,352	298,802	304,640	385,357

[1] One year only.
[2] Old boundaries.
[3] Includes Bessarabia.
[4] Preliminary estimate of former Russian territory within 1923 boundaries.

TABLE 99.—*Corn: Production in undermentioned countries*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Average, 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
AFRICA.								
Morocco-Western	----------	4,793	4,605	3,114	3,904	5,900	4,564	----------
Algeria	596	302	194	236	254	354	276	155
Tunis	228	354	307	256	110	354	----------	284
Egypt	64,273	63,955	65,483	67,604	63,976	70,568	73,505	----------
Total comparable with 1909–1913	65,099	64,611	65,984	68,096	64,340	71,276	----------	----------
Total comparable with 1923	826	656	591	492	364	708	----------	[4]439
ASIA.								
India-British	[5]82,620	93,800	96,640	71,292	103,440	83,320	96,240	----------
Russia (Asiatic)	[4]15,793	----------	----------	----------	----------	----------	25	----------
Japanese Empire:								
Japan	3,391	3,791	3,320	3,996	3,947	4,241	----------	----------
Chosen	2,236	2,993	3,145	2,002	2,465	----------	2,902	----------
Philippines	[6]7,461	14,545	12,196	13,095	16,978	15,854	14,777	16,663
Total comparable with 1909–1913	111,501	----------	----------	----------	----------	----------	----------	----------
Total comparable with 1923	7,461	14,545	12,196	13,095	16,978	15,854	14,777	16,663
Total Northern Hemisphere comparable with 1909–1913	3,545,856	----------	----------	----------	----------	----------	----------	----------
Total Northern Hemisphere comparable with 1923	----------	----------	----------	----------	3,641,675	3,404,511	----------	3,481,104

SOUTHERN HEMISPHERE.

	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Chile	1,455	1,338	1,446	1,284	1,446	1,685	1,777	1,832
Uruguay	6,026	4,604	6,815	7,526	6,574	4,600	4,722	8,628
Argentina	191,698	58,839	170,660	224,239	258,686	230,420	176,171	153,141
Union of South Africa	[6]33,517	34,964	45,143	30,966	33,461	34,906	35,195	50,390
Southern Rhodesia	[1]1,834	3,350	2,113	3,178	4,002	4,360	2,367	5,178
Java and Madura	----------	51,166	49,862	49,595	61,251	59,619	47,501	50,116
Australia	10,057	8,527	8,843	6,912	6,764	7,259	7,840	----------
New Zealand	[5]265	274	368	414	406	501	506	506
Total Southern Hemisphere comparable with 1909–1913	244,852	111,896	235,388	274,519	311,339	283,731	226,578	----------
Total Southern Hemisphere comparable with 1923	----------	164,535	276,407	317,202	365,826	336,991	268,239	269,791
World total comparable with 1909–1913	3,790,708	----------	----------	----------	----------	----------	----------	----------
World total comparable with 1923	----------	----------	----------	----------	4,007,501	3,740,602	----------	3,750,895

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

[1] One year only.
[4] Preliminary estimate of former Russian territory within 1923 boundaries.
[5] Two-year average.
[6] Four-year average.

TABLE 100.—*Corn: World production, 1900–1923.*

Calendar year.	Production in countries reporting all years 1900–1923.	Production as reported.	Estimated world totals (preliminary).	Three selected countries.		
				United States.	Italy.	Argentina.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1900	2,657,479	2,145,539	3,445,529	2,505,148	87,969	55,611
1901	1,784,780	2,328,687	2,637,787	1,613,528	100,455	96,841
1902	2,755,097	3,274,417	3,552,137	2,619,499	71,028	84,018
1903	2,640,948	3,133,418	3,417,243	2,346,897	88,990	148,946
1904	2,673,669	3,066,601	3,339,736	2,528,662	90,545	175,187
1905	2,920,433	3,464,564	3,743,794	2,748,949	97,265	140,707
1906	3,042,894	3,703,932	3,980,577	2,897,562	92,904	194,910
1907	2,667,113	3,354,363	3,628,813	2,512,065	88,412	71,768
1908	2,702,729	3,266,956	3,705,956	2,544,957	95,845	136,055
1909	2,740,791	3,390,685	3,703,585	2,572,336	99,289	177,155
1910	3,056,689	3,709,655	3,951,255	2,886,260	101,722	175,187
1911	2,683,121	3,547,596	3,790,396	2,531,488	93,518	27,676
1912	3,287,886	4,220,154	4,329,454	3,124,746	98,668	295,849
1913	2,616,156	3,557,132	3,743,632	2,446,988	108,388	196,642
1914	2,844,850	3,939,799	4,041,799	2,672,804	104,967	263,135
1915	3,174,515	3,990,557	4,142,557	2,994,793	121,824	325,178
1916	2,699,694	3,176,062	3,475,462	2,566,927	81,547	161,133
1917	3,197,869	3,719,215	4,049,715	3,065,233	82,771	58,839
1918	2,615,641	3,279,232	3,469,832	2,502,665	76,590	170,660
1919	2,935,030	3,671,630	3,962,630	2,811,302	85,846	224,239
1920	3,343,224	4,292,421	4,437,421	3,208,584	89,298	258,686
1921	3,199,059	3,995,272	4,075,772	3,068,569	92,325	230,420
1922	3,026,111	3,941,909	3,972,028	2,906,020	76,830	176,171
1923	3,177,990	3,531,212	4,201,912	3,054,395	83,995	153,141

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

TABLE 101.—*Corn: Farm stocks, shipments, and quality, United States, 1897–1923.*

Year.	Old stocks on farms Nov. 1.[1]	Crop.			Total supplies.	Stocks on farms Mar. 1 following.[1]	Shipped out of county where grown.[1]
		Quantity.	Quality.	Proportion merchantable.[1]			
	1,000 bush.	*1,000 bush.*	*Per cent.*	*Per cent.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1897–98	320,488	2,144,553	86.3	86.8	1,861,838	2,465,041	878,063	472,426
1898–99	156,330	2,261,119	83.8	82.2	1,858,027	2,417,449	937,016	478,991
1899–1900	134,995	2,454,628	87.2	86.7	2,127,460	2,589,623	904,586	420,739
1900–1	106,198	2,505,148	85.5	86.8	2,175,608	2,611,346	927,423	585,701
1901–2	116,016	1,613,528	73.7	----------	----------	1,729,544	471,609	166,612
1902–3	31,494	2,619,499	80.7	76.0	1,991,866	2,650,993	1,091,534	580,139
1903–4	137,602	2,346,897	83.1	75.6	1,774,099	2,484,499	871,712	449,719
1904–5	83,379	2,528,662	86.2	84.5	2,136,927	2,612,041	972,077	565,287
1905–6	83,105	2,748,949	90.6	88.3	2,427,996	2,832,054	1,124,905	696,365
1906–7	122,732	2,897,662	89.9	89.3	2,587,596	3,020,394	1,287,060	690,490
1907–8	129,786	2,512,065	82.8	77.2	1,939,877	2,641,851	931,503	470,046
1908–9	69,251	2,544,957	86.9	88.2	2,244,571	2,614,208	999,235	565,510
1909–10	77,403	2,572,336	84.2	82.7	2,126,965	2,649,739	980,848	620,057
1910–11	113,919	2,886,260	87.2	86.4	2,492,763	3,000,179	1,165,378	661,777
1911–12	123,324	2,531,488	80.6	80.1	2,027,922	2,655,312	884,059	517,766
1912–13	64,764	3,124,746	85.5	85.0	2,654,907	3,189,510	1,290,642	680,831
1913–14	137,972	2,446,988	82.2	80.1	1,961,058	2,584,960	866,352	422,059
1914–15	80,046	2,672,804	85.1	84.5	2,259,755	2,752,850	910,894	498,285
1915–16	96,009	2,994,793	77.2	71.1	2,127,965	3,090,802	1,116,559	560,824
1916–17	87,908	2,566,927	83.8	83.9	2,154,487	2,654,835	782,303	450,589
1917–18	34,448	3,065,233	75.2	60.0	1,837,728	3,099,681	1,253,290	678,027
1918–19	114,678	2,502,665	85.6	82.4	2,062,041	2,617,343	855,269	362,589
1919–20	69,835	2,811,302	89.1	87.1	2,448,204	2,881,137	1,045,575	470,328
1920–21	139,063	3,208,584	89.6	86.9	2,789,720	3,347,667	1,564,832	705,481
1921–22	295,769	3,068,569	84.0	87.5	2,684,634	3,354,338	1,305,559	587,993
1922–23	177,267	2,906,020	85.0	88.3	2,567,044	3,083,307	1,093,306	518,779
1923–24[2]	83,856	3,054,395	79.4	----------	----------	3,138,251	----------	----------

Division of Crop and Livestock Estimates.

[1] Based on reported percentage of entire crop on farms, merchantable, and shipped out of county where grown.

[2] Preliminary.

TABLE 102.—*Corn: Receipts and shipments, 11 primary markets, 1909–1922.*

Year beginning Nov. 1.	Chicago.		Milwaukee.		Minneapolis.		Duluth.		St. Louis.		Toledo.	
	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	88,428	66,011	6,535	5,893	6,564	5,047	883	943	22,913	16,383	4,001	1,840
1910–11	113,806	92,652	7,895	7,625	8,948	5,370	1,697	1,697	23,766	15,422	6,236	3,290
1911–12	108,431	73,940	9,410	6,506	5,423	3,264	12	12	25,176	15,492	4,121	2,037
1912–13	131,792	94,311	11,613	7,887	6,258	4,374	492	492	22,762	12,257	2,996	1,885
1913–14	84,838	57,528	15,804	10,727	10,710	8,776	878	362	16,961	10,119	4,560	2,314
Av. 1909–1913.	105,459	76,888	10,251	7,728	7,581	5,366	792	701	22,316	13,935	4,383	2,273
1914–15	116,348	80,256	19,609	16,985	14,699	11,997	3,036	3,036	18,626	10,206	4,582	2,594
1915–16	101,325	62,148	9,887	6,943	5,661	3,927	(1)	(1)	17,974	8,678	4,656	1,422
1916–17	78,723	40,497	12,755	8,681	9,550	7,779	32	6	21,312	13,191	2,882	1,190
1917–18	98,786	34,540	12,374	7,006	16,715	9,636	177	170	25,354	16,130	2,609	1,160
1918–19	61,366	32,019	6,784	3,697	6,631	4,773	6	(1)	19,219	11,956	1,127	549
1919–20	87,641	37,236	14,652	7,079	9,192	6,384	5	(1)	27,595	15,975	2,122	1,298
1920–21	167,241	113,374	27,455	21,823	12,066	8,483	4,834	3,777	25,924	17,044	3,194	1,349
Av. 1914–1920.	101,633	57,153	14,788	10,316	10,643	7,568	-------	-------	22,286	13,311	3,025	1,366
1921–22	186,815	115,700	25,630	22,168	15,920	12,048	14,111	14,034	33,809	22,713	3,994	1,795
1922–23	115,960	65,890	15,280	11,748	7,531	4,828	688	639	29,856	20,243	3,149	1,118
1922.												
November	10,380	6,205	631	577	436	246	16	123	2,162	1,426	378	135
December	20,972	5,121	1,494	492	1,124	448	194	25	2,332	1,154	368	135
1923.												
January	15,714	10,153	2,488	1,869	1,231	722	22	31	3,820	2,385	426	160
February	15,258	5,965	2,305	1,448	766	444	139	-------	3,122	2,148	324	136
March	11,406	5,147	1,327	1,385	712	506	69	-------	2,670	2,169	358	130
April	5,290	4,437	1,071	937	518	531	69	-------	2,184	1,760	234	64
May	2,844	8,969	268	1,031	354	300	3	287	1,620	1,164	196	75
June	3,554	4,513	858	242	723	444	6	2	2,345	1,685	139	53
July	6,465	3,520	1,514	876	466	532	140	129	2,615	1,809	209	88
August	8,804	4,253	1,287	1,025	439	237	23	42	2,582	1,987	218	102
September	7,890	4,506	1,526	1,455	287	133	4	-------	2,405	1,474	159	12
October	7,293	3,101	511	411	475	285	3	-------	1,999	1,082	140	28

Year beginning Nov. 1.	Detroit.		Kansas City.		Peoria.		Omaha.		Indianapolis.		Total.	
	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909–10	2,477	1,412	15,102	12,873	15,387	11,009	(1)	(1)	(1)	(1)	162,290	121,411
1910–11	3,860	1,930	16,026	13,395	16,477	11,141	(1)	(1)	(1)	(1)	198,713	152,522
1911–12	2,857	1,888	19,646	14,971	19,041	14,292	20,817	15,404	13,687	1,947	228,621	149,753
1912–13	2,757	1,615	16,992	10,614	17,928	11,202	22,618	17,732	15,974	3,637	252,177	166,006
1913–14	2,835	1,636	27,494	19,192	14,723	6,651	37,108	33,040	14,118	5,183	230,029	155,528
Av. 1909–1913.	2,957	1,696	19,052	14,209	16,710	10,859	-------	-------	-------	-------	214,366	149,044
1914–15	4,058	3,021	16,396	11,914	16,736	6,831	24,599	23,117	15,087	6,498	253,776	176,455
1915–16	4,726	3,139	25,837	22,459	35,948	13,722	21,496	15,948	22,700	11,073	250,300	149,459
1916–17	3,192	2,425	12,743	8,469	31,533	11,870	29,820	25,179	24,421	14,801	226,963	134,088
1917–18	4,361	717	31,366	24,481	36,176	17,062	46,159	36,355	20,583	9,206	294,660	156,463
1918–19	1,633	626	16,146	10,345	18,511	10,530	21,805	21,197	45,905	7,130	169,123	102,822
1919–20	1,671	481	11,218	5,034	22,449	17,660	23,227	18,604	19,991	7,170	219,763	116,921
1920–21	1,663	261	14,137	9,742	16,091	9,823	20,012	17,356	17,505	6,353	310,122	209,385
Av. 1914–1920.	3,043	1,524	18,263	13,206	25,349	12,500	26,731	22,537	19,469	8,890	246,387	149,370
1921–22	2,454	903	16,063	10,242	24,116	18,295	29,583	26,047	21,665	7,053	374,160	250,998
1922–23	1,957	289	15,499	7,239	21,157	6,2781	22,730	20,266	18,317	6,161	252,124	154,699
1922.												
November	241	31	879	334	2,255	2,112	2,284	979	2,220	846	21,882	13,014
December	279	48	1,597	225	2,843	2,362	2,416	1,927	2,195	986	35,814	12,923
1923.												
January	255	49	1,953	452	2,740	2,309	3,398	2,396	2,536	768	34,563	21,294
February	156	45	1,887	503	1,730	1,244	2,441	1,936	1,428	539	29,556	14,408
March	180	36	1,452	854	1,608	1,515	1,534	2,100	1,671	634	22,987	14,476
April	135	21	1,773	1,223	1,151	945	1,790	2,754	1,357	543	15,602	13,215
May	123	19	1,169	796	952	494	1,266	1,200	1,207	408	10,002	14,741
June	65	7	1,226	618	1,314	894	1,976	1,758	1,057	274	13,263	10,490
July	66	5	1,135	439	1,480	1,023	1,412	1,624	1,366	324	16,868	10,369
August	105	9	991	694	1,852	1,349	1,877	1,443	1,131	376	19,399	11,517
September	180	7	718	442	1,499	1,052	1,052	1,183	1,246	311	16,966	10,575
October	172	12	719	659	1,733	979	1,284	966	973	154	15,202	7,677

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the Chicago Board of Trade Annual Reports.

[1] No report.

TABLE 108.—*Corn: Monthly marketings by farmers, United States, 1917–1923.*

Year beginning July 1.	Percentage of year's receipts as reported by about 3,500 mills and elevators.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917-18	5.3	4.0	3.4	3.8	8.8	12.2	14.2	16.1	13.7	7.1	5.6	5.8	100.0
1918-19	6.7	6.9	8.4	6.7	7.8	12.0	15.0	7.2	7.5	8.2	8.0	6.1	100.0
1919-20	4.5	5.6	4.9	5.6	9.2	15.0	12.9	9.5	8.7	5.9	7.6	10.6	100.0
1920-21	5.4	5.6	6.9	5.3	7.1	11.3	14.3	11.7	8.9	5.6	8.5	9.4	100.0
1921-22	4.9	7.3	8.6	6.7	6.6	12.4	13.8	12.4	7.5	4.7	7.6	7.5	100.0
1922-23	6.8	7.5	9.1	8.2	8.7	13.6	10.7	11.0	6.6	5.3	6.1	6.4	100.0

Division of Crop and Livestock Estimates.

TABLE 104.—*Corn: Visible supply in United States, first of month, 1909–1923.*

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909-10	2,653	3,289	8,465	9,764	13,480	13,778	10,603	5,940	5,146	3,779	2,750	5,011
1910-11	3,510	1,545	5,099	9,145	11,794	11,166	7,047	4,685	7,482	7,100	6,724	6,389
1911-12	1,703	2,054	5,140	6,900	14,257	15,914	7,490	5,699	8,204	2,451	1,823	3,101
1912-13	2,689	1,535	5,879	9,717	17,918	21,494	7,270	2,549	11,479	6,389	2,612	7,308
1913-14	6,206	2,026	12,126	16,505	18,374	18,812	9,380	4,409	7,589	3,203	3,923	5,461
Av. 1909-1913	3,352	2,088	7,342	10,406	15,165	16,233	8,358	4,656	7,980	4,583	3,566	5,444
1914-15	3,114	3,382	19,703	34,156	41,238	32,877	20,203	12,795	5,225	2,306	2,382	3,444
1915-16	3,288	4,387	8,919	14,773	24,605	27,697	21,004	14,505	6,870	5,167	3,330	5,093
1916-17	2,361	2,677	5,838	10,671	12,931	11,974	7,173	2,629	3,277	2,841	2,371	1,163
1917-18	1,277	1,932	3,155	4,623	8,939	19,016	16,111	13,038	11,487	9,466	5,232	5,503
1918-19	4,733	2,216	2,415	5,549	4,483	2,514	4,245	2,600	4,038	2,461	956	2,163
1919-20	1,484	1,477	2,921	3,575	4,951	5,669	5,035	2,740	4,364	6,152	2,564	7,587
1920-21	10,085	4,597	5,409	14,297	22,333	32,896	23,018	15,103	24,304	14,584	11,500	11,765
Av. 1914-1920	3,763	2,953	6,909	12,521	17,069	18,949	13,837	9,059	8,509	6,140	4,048	5,245
1921-22	18,891	15,518	23,279	30,778	44,792	46,989	35,564	27,046	29,337	19,509	7,314	12,206
1922-23	8,806	11,072	16,760	21,658	27,529	28,742	22,339	6,734	3,366	2,373	1,587	2,052
1923-24	809	2,690	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

Division of Statistical and Historical Research.

Compiled from the Chicago Daily Trade Bulletin. Reported on Saturday nearest the first of each month.

TABLE 105.—*Corn: Classification of cars graded by licensed inspectors, all inspection points.*

Year beginning Nov. 1.	Total of all classes and subclasses under each grade, annual inspections, 1917–1922.															
	Receipts.								Shipments.							
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	Sample.	Total.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6	Sample.	Total.
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917–18	2,281	18,714	58,562	56,240	45,610	44,621	98,844	324,872	510	11,589	54,975	31,687	13,037	16,141	32,218	160,157
1918–19	12,661	34,727	40,872	41,491	28,832	16,061	19,638	194,282	2,339	29,368	39,532	15,985	5,670	5,616	7,425	105,935
1919–20	28,517	47,961	38,774	56,647	27,313	9,188	13,058	221,458	5,966	39,323	30,781	15,381	4,908	2,351	3,419	102,129
1920–21	68,550	88,875	64,237	63,081	21,176	9,420	8,738	324,077	34,785	141,483	49,905	10,774	1,774	2,449	3,172	244,342
1921–22	30,970	197,254	115,207	42,880	21,963	15,979	4,951	429,204	9,854	229,539	48,887	7,270	5,321	4,992	1,436	307,299
1922–23	21,580	141,563	98,932	24,261	4,270	3,526	3,711	297,843	3,338	131,026	38,408	2,767	666	933	639	177,777
Class.	Total inspections by grade and class, November 1, 1922, to October 31, 1923.															
White	3,747	33,699	16,292	3,212	610	476	532	58,568	922	25,096	4,762	191	52	54	29	31,106
Yellow	13,406	74,393	62,441	15,019	2,774	2,020	1,581	171,634	1,529	61,102	26,565	1,715	457	359	113	92,140
Mixed	4,427	33,471	20,199	6,030	886	1,080	1,598	67,641	587	44,828	7,081	861	157	520	497	54,531
Year beginning Nov. 1.	Total of all classes and subclasses under each grade, annual inspections, 1917–1922.															
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1917–18	0.7	5.8	18.0	17.3	14.1	13.7	30.4	100	0.3	7.2	34.3	19.8	8.2	10.1	20.1	100
1918–19	6.5	17.9	21.0	21.4	14.8	8.3	10.1	100	2.2	27.7	37.3	15.1	5.4	5.3	7.0	100
1919–20	12.9	21.7	17.5	25.6	12.3	4.1	5.9	100	5.8	38.5	30.1	15.1	4.8	2.3	3.4	100
1920–21	21.2	27.4	19.8	19.5	6.5	2.9	2.7	100	14.3	57.9	20.4	4.4	.7	1.0	1.3	100
1921–22	7.2	46.0	26.8	10.0	5.1	3.7	1.2	100	3.2	74.7	16.0	2.3	1.7	1.6	.5	100
1922–23	7.2	47.5	33.2	8.2	1.4	1.2	1.3	100	1.9	73.7	21.6	1.5	.4	.5	.4	100
Class	Total inspections by grade and class, November 1, 1922, to October 31, 1923.															
White	6.4	57.5	27.8	5.5	1.1	0.8	0.9	100	2.9	80.7	15.3	0.6	0.2	0.2	0.1	100
Yellow	7.8	43.3	36.4	8.8	1.6	1.2	.9	100	2.0	66.3	28.8	1.9	.5	.4	.1	100
Mixed	6.5	49.5	29.9	8.9	1.3	1.5	2.4	100	1.1	82.2	13.0	1.6	.3	.9	.9	100

TABLE 106.—*Corn, including meal: International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Argentina	2	115,749	2	176,159	----	111,603	----	109,101
Bulgaria	44	9,307	(1)	4,185	(1)	[2] 2,195	(1)	[2] 1,664
China	[2] 38	[2] 148	79	686	356	119	69	487
Rumania	176	38,966	429	17,329	(1)	30,280	----	11,482
Russia	335	30,034	----	----	----	----	[2] 3,168	----
Union South Africa	143	3,952	359	2,899	18	18,325	18	11,881
United States	1,226	45,054	7,784	21,230	164	132,186	113	166,131
Yugoslavia	----	----	----	[2] 5,003	[2] 96	[2] 12,490	----	[2] 451
PRINCIPAL IMPORTING COUNTRIES.								
Austria	----	----	5,124	[2] 38	6,699	[2] 34	[2] 3,447	[2] 5
Austria-Hungary	13,877	268	----	----	----	----	----	----
Belgium	25,801	8,130	10,513	2,327	19,386	7,157	16,513	480
Canada	10,629	25	10,793	113	12,455	110	13,358	122
Czechoslovakia	----	----	[2] 314	[2] 1	4,794	(1)	3,868	[2] 21
Cuba	2,746	(1)	3,217	----	----	----	----	----
Denmark	11,440	6	9,822	4	18,181	9	17,182	----
Egypt	471	61	948	1	2,261	396	81	104
France	18,708	82	17,609	858	13,355	600	21,170	145
Germany	32,160	1	16,099	(1)	[2] 73,639	[4] 46	42,731	5
Greece	----	----	342	[2] 10	1,027	[2] 10	191	----
Hungary	----	----	(1)	[2] 12	[2] 42	[2] 1,134	[2] 235	[2] 17
Italy	14,895	206	12,599	4	17,965	11	19,859	22
Mexico	4,404	82	----	----	----	----	----	----
Netherlands	29,580	8,750	15,566	37	35,643	355	34,831	294
Norway	1,079	----	2,623	----	3,558	----	3,483	----
Poland	----	----	----	----	[2] 1,776	(1)	[2] 524	[2] 19
Portugal	1,674	5	[2] 1,257	(1)	----	----	----	----
Spain	9,775	44	7,719	188	11,906	576	17,595	1
Sweden	1,476	26	1,505	41	4,158	66	1,986	----
Switzerland	3,987	1	963	(1)	5,107	----	5,007	(1)
Tunis	446	11	1,219	5	772	21	396	11
United Kingdom	82,976	96	71,057	67	78,194	65	79,048	----
Uruguay	5	201	[2] 1,203	(1)	[2] 266	[2] 209	[2] 81	[2] 124
Other countries	2,898	9,821	3,620	5,546	2,045	8,118	1,924	7,231
Total	270,991	271,026	202,765	236,743	314,043	326,115	286,878	309,798

Division of Statistical and Historical Research. Official sources except where otherwise noted. Maicena or maizena is included as "Corn and corn meal."

[1] Less than 500 bushels.
[2] International Institute of Agriculture.
[3] Four-year average.
[4] Eight months, May-December.

TABLE 107.—*Corn: Farm price per bushel, 1st of month, United States, 1908–1923.*

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted av., crop year.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908-9	63.5	60.6	60.7	61.4	64.7	67.5	71.9	76.3	77.0	75.2	71.0	67.1	66.2
1909-10	62.2	57.9	62.3	65.2	65.9	65.5	63.5	65.2	66.2	67.2	66.3	61.1	63.7
1910-11	52.6	48.0	48.2	49.9	48.9	49.7	51.8	55.1	60.0	65.8	65.9	65.7	53.1
1911-12	64.7	61.8	62.2	64.6	66.6	71.1	79.4	82.5	81.1	79.3	77.6	70.2	69.4
1912-13	58.4	48.7	48.9	50.6	52.2	53.7	56.8	60.6	63.2	65.4	75.4	75.3	56.5
1913-14	70.7	69.1	69.6	68.3	69.1	70.7	72.1	75.0	75.5	76.8	81.5	78.2	71.9
AV. 1909-1913	61.7	57.1	58.2	59.5	60.5	62.1	64.7	67.7	69.2	70.9	73.3	70.1	62.9
1914-15	70.6	64.4	66.2	72.8	75.1	75.1	77.7	77.9	77.7	78.9	77.3	70.5	72.4
1915-16	61.9	57.5	62.1	66.7	68.2	70.3	72.3	74.1	75.4	79.4	83.6	82.3	69.0
1916-17	85.0	88.9	90.0	95.8	100.9	113.4	130.6	160.1	164.6	196.6	175.5	175.1	121.2
1917-18	146.0	127.9	134.8	138.8	154.3	153.6	155.7	152.5	153.7	159.7	165.7	159.5	146.7
1918-19	140.3	136.5	144.7	138.1	137.2	149.6	162.6	171.2	176.5	191.2	185.4	153.9	152.1
1919-20	133.4	134.5	140.4	146.8	148.5	158.6	169.6	185.2	185.6	163.7	155.7	121.3	150.6
1920-21	87.3	67.0	66.7	62.4	64.5	63.0	59.5	63.5	62.2	61.7	56.2	51.0	64.1
AV. 1914-1920	103.5	96.7	100.7	103.1	107.0	111.9	121.1	126.2	128.0	133.0	128.5	116.2	110.9
1921-22	41.1	42.3	43.4	45.8	54.8	56.9	59.7	61.6	62.2	64.4	62.7	61.6	52.2
1922-23	62.9	65.8	66.6	70.7	74.3	76.3	83.0	85.0	86.5	87.4	86.6	85.7	75.6
1923-24	83.9	72.7	----	----	----	----	----	----	----	----	----	----	----

Division of Crop and Livestock Estimates.

TABLE 108.—*Corn: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920.	1921	1922	1923	Value per acre 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Me	84	80	71	90	75	87	81	88	85	119	228	167	195	128	144	77	100	112	42.56
N. H	79	76	69	82	75	81	77	82	76	115	217	150	170	145	136	75	75	111	46.62
Vt	78	73	66	80	72	81	74	81	84	110	213	170	175	126	137	76	91	110	42.90
Mass	81	81	70	83	77	85	79	85	80	120	215	170	172	125	138	77	94	115	49.45
R. I	90	97	83	95	88	99	92	98	100	138	236	180	186	180	160	110	120	115	43.70
Conn	80	75	68	83	77	85	78	89	85	120	215	171	180	140	143	90	96	107	43.87
N. Y	80	74	63	77	70	81	73	83	78	110	198	175	166	116	132	67	83	100	32.40
N. J	69	71	60	71	68	75	69	76	75	100	170	150	153	85	116	53	70	95	38.00
Pa	73	70	59	68	63	72	66	73	70	97	153	155	147	100	114	55	72	91	36.40
Del	59	58	52	61	51	59	56	62	62	89	140	136	145	75	101	45	70	81	26.81
Md	62	65	58	63	55	65	61	68	61	89	140	135	140	81	102	49	68	82	32.23
Va	71	74	65	73	71	76	72	81	71	93	153	160	169	100	118	69	79	94	27.26
W. Va	77	74	68	77	65	80	73	83	74	101	170	180	164	116	127	75	84	99	33.66
N. C	79	85	76	82	83	88	83	86	77	110	170	177	185	113	131	78	89	102	22.95
S. C	91	90	82	91	85	97	89	92	87	113	192	195	197	116	142	74	87	105	17.32
Ga	82	86	78	83	85	91	85	85	78	100	160	165	160	105	122	53	86	107	13.05
Fla	82	83	85	80	79	82	82	80	73	90	140	138	140	100	109	53	87	100	12.50
Ohio	63	56	46	58	45	63	54	61	56	90	136	130	121	68	95	41	66	74	30.34
Ind	60	50	40	54	42	60	49	58	51	84	125	119	125	59	89	37	56	62	23.87
Ill	57	52	38	55	41	63	50	61	54	84	110	120	130	59	88	38	60	65	24.38
Mich	64	61	53	65	57	67	61	67	68	95	182	130	138	82	109	48	67	78	26.91
Wis	61	60	52	60	51	60	57	65	68	92	163	130	125	77	103	46	63	80	29.60
Minn	55	49	45	53	37	53	47	52	62	80	110	111	120	51	84	31	56	61	21.96
Iowa	52	49	36	53	35	60	47	55	51	80	108	122	120	47	83	30	56	62	25.23
Mo	57	59	44	60	46	74	57	68	57	90	114	143	138	64	96	40	68	74	22.20
N. Dak	60	55	58	60	43	52	54	58	67	84	151	130	140	72	100	34	53	54	18.09
S. Dak	50	50	40	53	37	56	47	50	49	77	120	110	119	42	81	26	50	52	17.94
Nebr	51	50	36	55	37	65	49	53	47	78	120	128	122	41	94	27	58	53	17.49
Kans	55	54	45	63	40	78	56	63	51	90	125	149	140	44	95	31	61	64	13.89
Ky	65	62	53	63	55	76	62	64	56	87	121	140	155	82	102	55	69	85	24.22
Tenn	64	70	56	61	61	77	65	68	58	94	120	145	157	87	104	52	79	94	23.03
Ala	83	85	71	78	79	89	80	80	69	102	125	148	159	98	112	62	90	108	15.98
Miss	83	81	63	72	71	77	73	73	65	98	138	151	160	102	112	56	85	107	15.52
La	70	69	55	70	68	77	68	75	64	94	140	161	150	85	111	65	83	105	16.17
Tex	59	76	63	80	64	82	73	74	58	104	167	176	118	84	112	54	83	100	18.50
Okla	51	55	51	70	41	72	58	64	46	93	147	164	127	54	99	32	70	87	10.00
Ark	66	72	58	72	67	78	69	80	64	98	140	180	164	97	118	57	85	101	19.70
Mont	90	86	95	80	70	77	82	76	69	93	175	135	165	80	113	67	53	65	16.90
Wyo	76	78	66	76	64	80	73	70	67	90	175	140	165	56	109	50	60	70	18.90
Colo	71	70	60	78	50	73	66	60	55	90	125	135	142	70	97	31	66	65	16.25
N. Mex	80	90	90	84	75	75	83	80	73	113	188	180	151	110	128	90	82	95	15.58
Ariz	105	100	110	97	100	110	103	120	115	140	190	210	200	170	164	100	115	120	36.00
Utah	72	87	84	81	75	70	79	75	80	115	170	181	150	150	132	76	85	95	23.66
Nev	----	87	100	90	98	118	99	110	93	125	150	210	140	160	141	120	105	125	29.12
Idaho	70	75	71	85	70	68	74	72	65	100	155	183	165	100	120	50	79	77	32.34
Wash	76	86	75	79	77	80	79	73	77	100	162	170	185	125	127	80	105	95	35.15
Oreg	77	80	80	80	75	70	77	82	82	95	150	155	155	130	121	84	91	90	31.50
Calif	88	91	80	90	85	88	87	87	88	124	185	193	179	120	139	77	100	108	37.80
U. S	60.0	58.6	48.0	61.8	48.7	69.1	57.2	64.4	57.5	88.9	127.9	136.5	134.5	67.0	96.7	42.3	65.8	72.7	21.33

Division of Crop and Livestock Estimates.

[1]Based upon farm price Dec. 1.

TABLE 109.—*Corn, all classes and grades combined: Weighted average price per bushel of reported cash sales at markets named, 1918–1923.*

CHICAGO.

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cents.*
1918–19	118.6	138.6	131.4	122.0	144.2	160.1	174.0	173.7	191.8	193.2	166.6	140.0	150.4
1919–20	143.8	141.6	144.9	139.5	155.1	159.7	197.4	183.3	155.3	154.9	132.2	95.9	144.1
1920–21	78.8	72.5	62.1	59.9	60.7	54.5	61.2	59.1	59.4	56.2	53.2	46.2	56.6
1921–22	46.7	47.1	47.3	54.0	57.1	58.2	61.4	60.0	63.7	62.0	63.0	69.0	56.9
1922–23	71.1	72.4	70.1	72.5	72.8	79.3	81.8	84.0	87.1	88.2	88.8	102.4	78.1
1923–24	76.1	69.8											

ST. LOUIS.

1918–19	126.5	139.7	134.5	126.1	143.5	160.2	174.8	179.1	193.0	194.8	155.8	141.9	151.5
1919–20	146.4	144.5	147.4	142.5	155.3	171.8	194.9	186.8	160.6	158.1	129.3	98.5	155.4
1920–21	82.1	71.9	62.1	61.2	60.7	56.2	59.9	60.5	60.7	54.3	51.6	45.4	57.5
1921–22	46.0	47.8	47.5	54.7	57.7	57.9	61.3	60.0	64.0	61.4	62.5	69.9	57.6
1922–23	71.4	72.6	71.0	73.5	74.3	80.1	84.2	86.1	87.4	87.0	89.9	101.5	79.6
1923–24	76.9	69.4											

OMAHA.

1918–19	131.6	142.8	136.0	123.6	142.4	159.3	167.6	170.7	186.1	184.0	152.2	136.1	151.2
1919–20	139.3	135.6	135.9	131.9	146.3	161.7	181.4	175.5	149.3	150.3	118.2	81.4	147.6
1920–21	70.7	60.7	54.7	52.2	53.1	47.6	52.6	53.6	50.3	45.3	42.5	36.2	50.0
1921–22	39.4	39.2	40.8	49.5	51.2	51.9	54.2	54.4	57.1	53.7	55.8	64.0	50.9
1922–23	68.4	66.8	65.8	67.5	68.9	77.2	80.1	80.5	80.0	79.6	82.8	94.3	73.3
1923–24	68.8	62.5											

KANSAS CITY.

1918–19	139.5	148.8	136.5	127.9	147.9	165.1	172.6	176.7	189.5	189.0	155.2	141.7	153.0
1919–20	138.3	141.0	142.1	136.5	149.1	166.9	185.1	171.1	149.5	146.2	126.8	86.1	147.5
1920–21	67.1	63.3	58.5	57.1	56.8	51.1	57.0	55.5	52.4	45.6	45.3	39.0	53.8
1921–22	41.8	42.1	43.7	52.9	54.0	55.0	57.4	57.0	56.0	55.2	58.9	68.9	53.2
1922–23	72.5	70.5	69.8	71.4	72.7	81.9	84.0	84.2	83.0	81.5	86.6	95.3	77.7
1923–24	73.9	65.1											

MINNEAPOLIS.

1918–19	130.9	136.6	128.1	115.8	131.2	155.8	162.5	160.0	176.7	184.0	152.6	138.1	140.8
1919–20	140.6	134.5	135.5	132.3	146.3	161.1	179.4	172.3	143.2	129.0	123.1	89.5	141.2
1920–21	67.0	60.4	53.6	50.6	52.1	47.4	51.2	51.8	51.3	50.7	47.0	40.3	50.5
1921–22	41.4	39.9	41.2	50.3	50.5	51.4	54.9	54.5	58.1	56.6	58.2	65.3	50.1
1922–23	68.9	65.3	63.3	65.8	66.7	72.6	77.9	76.3	79.1	81.9	82.9	90.4	71.7
1923–24	72.3	64.9											

CINCINNATI.[1]

1919–20			147.5	145.9	159.3	173.8	196.0	191.5	164.4	159.0	137.9	102.7	
1920–21	80.3	69.7	65.7	65.5	63.9	57.8	63.9	63.4	65.3	63.6	55.4	50.8	61.8
1921–22	49.5	49.2	49.1	55.8	60.8	60.5	64.5	62.2	68.2	65.4	65.6	73.1	59.7
1922–23	80.9	74.0	73.8	76.3	77.3	85.7	87.0	88.9	92.1	92.5	93.6	99.5	82.7
1923–24	73.5	67.6											

SIX MARKETS COMBINED.[2]

1918–19	122.5	140.4	133.0	123.0	143.1	160.6	172.2	173.9	189.9	191.5	156.1	139.9	150.3
1919–20	143.2	140.4	143.2	137.9	153.1	163.8	191.7	181.0	154.8	153.2	130.1	94.3	146.5
1920–21	76.5	68.6	60.3	58.1	58.8	52.9	58.9	58.3	57.5	54.0	51.9	45.2	55.5
1921–22	45.6	45.7	46.0	53.3	55.4	56.5	59.6	59.3	62.1	60.1	62.3	69.4	55.7
1922–23	70.8	71.6	69.2	71.6	72.4	79.0	82.1	83.1	85.6	86.4	88.3	100.3	77.4
1923–24	74.9	67.5											

These prices are comparable with farm prices.

Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin, St. Louis Daily Market Reporter, Omaha Daily Price Current, Kansas City Grain Market Review, Minneapolis Daily Market Record, Cincinnati Daily Trade Bulletin.

[1] No reports until January, 1920.

[2] From November, 1918 through December, 1919 inclusive, Cincinnati is not included.

TABLE 110.—*Corn, No. 3, yellow: Weighted average price per bushel of reported cash sales, 1899–1923.*

CHICAGO.

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
1899–1900	$0.31	$0.30	$0.30	$0.32	$0.36	$0.39	$0.38	$0.40	$0.41	$0.40	$0.40	$0.42	$0.36
1900–1	.37	.35	.36	.37	.39	.42	.43	.42	.48	.56	.56	.56	.43
1901–2	.60	.64	.62	.59	.59	.62	.62	.63	.65	.60	.59	.60	.62
1902–3	.53	.46	.43	.43	.41	.41	.46	.49	.51	.53	.51	.45	.47
1903–4	.44	.44	.43	.46	.46	.49	.49	.50	.49	.52	.53	.55	.49
1904–5	.48	.43	.42	.44	.47	.48	.50	.55	.57	.54	.53	.53	.48
1905–6	.45	.42	.42	.42	.40	.42	.47	.49	.52	.54	.47	.46	.44
1906–7	.43	.42	.41	.43	.43	.44	.52	.53	.54	.57	.64	.65	.50
1907–8	.59	.58	.53	.54	.63	.65	.73	.72	.76	.81	.80	.77	.68
1908–9	.63	.59	.64	.65	.66	.69	.73	.75	.72	.70	.69	.59	.65
1909–10	.59	.59	.64	.63	.61	.57	.60	.59	.62	.64	.58	.50	.59
1910–11	.49	.45	.45	.45	.45	.50	.54	.55	.63	.65	.67	.73	.53
1911–12	.68	.61	.62	.64	.68	.78	.79	.75	.68	.79	.74	.65	.71
1912–13	.52	.46	.46	.48	.49	.55	.57	.60	.62	.74	.75	.70	.53
1913–14	.72	.66	.62	.62	.64	.67	.70	.72	.71	.82	.79	.73	.70
Av., 1909–1913	.60	.55	.56	.56	.57	.61	.64	.64	.65	.73	.71	.66	.61
1914–15	.67	.64	.71	.74	.72	.75	.77	.74	.78	.81	.74	.65	.70
1915–16	.63	.69	.74	.74	.73	.76	.75	.74	.81	.85	.86	.96	.79
1916–17	.98	.92	.98	1.00	1.09	1.40	1.59	1.70	1.99	2.06	2.10	2.03	1.11
1917–18	2.21	1.77	1.77	1.81	1.70	1.65	1.60	1.62	1.70	1.72	1.58	1.41	1.63
1918–19	1.33	1.45	1.43	1.27	1.53	1.62	1.74	1.78	1.92	1.95	1.55	1.41	1.62
1919–20	1.46	1.47	1.51	1.46	1.58	1.69	2.02	1.89	1.58	1.58	1.31	.91	1.59
1920–21	.77	.74	.65	.63	.62	.57	.60	.63	.60	.56	.53	.45	.62
Av., 1914–1920	1.15	1.10	1.11	1.09	1.14	1.21	1.30	1.30	1.34	1.36	1.24	1.12	1.15
1921–22	.47	.47	.48	.55	.57	.58	.62	.61	.64	.62	.64	.69	.55
1922–23	.71	.73	.70	.72	.73	.79	.82	.84	.88	.88	.89	1.04	.73
1923–24	.82	.71											

Compiled from Chicago Daily Trade Bulletin.

KANSAS CITY.[1]

1899–1900	$0.29	$0.28	$0.29	$0.31	$0.32	$0.38	$0.38	$0.37	$0.38	$0.37	$0.38	$0.38	$0.33
1900–1[2]	.34	.34	.35	.36	.37	.42	.41	.41	.48	.59	.57	.59	.41
1901–2[2]	.66	.68	.64	.61	.61	.63	.64	.60	.63	.53	.56	.52	.63
1902–3	.41	.38	.39	.39	.38	.36	.41	.54	.48	.46	.45	.40	.40
1903–4	.39	.37	.40	.43	.42	.47	.50	.49	.51	.49	.49	.49	.45
1904–5	.47	.42	.42	.46	.46	.46	.47	.50	.53	.50	.50	.48	.46
1905–6	.42	.41	.40	.39	.40	.44	.47	.48	.50	.46	.44	.42	.43
1906–7	.38	.38	.39	.40	.41	.40	.51	.50	.51	.50	.57	.58	.43
1907–8	.51	.50	.53	.55	.59	.63	.69	.71	.75	.72	.74	.69	.54
1908–9	.60	.57	.57	.60	.63	.67	.73	.72	.67	.63	.65	.60	.62
1909–10	.59	.62	.65	.61	.59	.55	.62	.60	.62	.62	.55	.49	.59
1910–11	.47	.43	.44	.42	.44	.47	.52	.55	.67	.62	.66	.71	.49
1911–12	.67	.62	.66	.65	.71	.81	.80	.75	.75	.76	.71	64	.69
1912–13	.45	.45	.47	.47	.50	.56	.58	.59	.62	.75	.75	.72	.55
1913–14	.72	.66	.65	.63	.66	.69	.73	.71	.70	.81	.78	.70	.67
Av. 1909–1913	.58	.56	.57	.56	.58	.62	.65	.64	.67	.71	.69	.65	.60
1914–15	.64	.65	.73	.73	.71	.75	.75	.74	.76	.76	.70	.59	.72
1915–16	.62	.67	.70	.71	.68	.72	.72	.72	.78	.82	.84	.91	.69
1916–17	.95	.89	.95	.99	1.16	1.41	1.58	1.68	2.01	1.78	1.96	1.91	1.06
1917–18	2.02	1.66	1.65	1.74	1.66	1.59	1.61	1.54	1.63	1.76	1.66	1.45	1.63
1918–19	1.47	1.52	1.42	1.34	1.48	1.66	1.74	1.79	1.92	1.93	1.64	1.42	1.56
1919–20	1.51	1.51	1.49	1.45	1.56	1.71	1.91	1.82	1.58	1.57	1.28	.88	1.60
1920–21	.67	.69	.60	.58	.57	.52	.56	.56	.51	.46	.49	.38	.59
Av. 1914–1920	1.13	1.08	1.08	1.08	1.12	1.19	1.27	1.26	1.31	1.30	1.22	1.08	1.12
1921–22	.43	.42	.45	.53	.54	.57	.59	.59	.60	.58	.59	.64	.54
1922–23	.73	.71	.70	.71	.73	.82	.85	.85	.84	.83	.86	.95	.74
1923–24	.78	.67											

Compiled from the Kansas City Daily Price Current.

Division of Statistical and Historical Research.

[1] Prior to May 11, 1903, the prices were obtained under mixed corn.
[2] 1901, compiled from the Kansas City Star.

TABLE 110A.—*Corn, No. 3, yellow: Weighted average price per bushel of reported cash sales, 1909–1923.*

ST. LOUIS.

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
1909–10	$0.58	$0.61	$0.65	$0.63	$0.60	$0.58	$0.62	$0.59	$0.63	$0.62	$0.55	$0.49	$0.61
1910–11	.47	.44	.45	.44	.45	.48	.53	.55	.65	.63	.66	.72	.48
1911–12	.65	.61	.60	.64	.70	.80	.79	.74	.74	.76	.73	.64	.70
1912–13	.48	.46	.48	.48	.50	.57	.58	.60	.64	.73	.75	.71	.52
1913–14	.73	.67	.63	.62	.66	.68	.71	.71	.73	.83	.79	72	.68
Av. 1909–1913	.58	.56	.56	.56	.58	.62	.65	.64	.68	.71	.70	.66	.60
1914–15	.66	.65	.72	.74	.72	.76	.77	.74	.78	.78	.74	.64	.72
1915–16	.64	.68	.75	.75	.73	.75	.74	.74	.81	.86	.86	.93	.75
1916–17	.96	.91	.98	.99	1.12	1.45	1.63	1.67	1.94	1.75	2.04	1.91	1.11
1917–18	2.00	1.75	1.76	1.82	1.68	1.66	1.62	1.60	1.69	1.75	1.63	1.45	1.67
1918–19	1.40	1.50	1.44	1.33	1.54	1.62	1.74	1.78	1.99	1.93	1.52	1.42	1.59
1919–20	1.49	1.49	1.51	1.48	1.60	1.73	2.00	1.87	1.62	1.57	1.30	.92	1.64
1920–21	.79	.74	.64	.63	.62	.57	.62	.61	.59	.54	.52	.46	.60
Av. 1914–1920	1.13	1.10	1.11	1.11	1.14	1.22	1.30	1.29	1.35	1.31	1.23	1.10	1.15
1921–22	.47	.48	.48	.54	.58	.57	.61	.60	.65	.61	.63	.69	.57
1922–23	.71	.72	.70	.73	.74	.80	.84	.86	.86	.92	.90	1.00	.75
1923–24	.82	.71											

Division of Statistical and Historical Research. Compiled from the St. Louis Daily Market Reporter.

TABLE 111.—*Corn, American mixed. Average spot price per bushel of 56 pounds at Liverpool, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912	$0.92	$0.95	$0.94	$0.95	$0.95	$0.95	$0.93	$0.99	$0.99	$0.99	$0.91	$0.86
1913	.82	.82	.81	.82	.82	.82	.82	.90	.95	.89	.90	.91
1914	.91	.91	.91	.91	.91	.92	.93	1.13	1.11	1.04	1.00	.98
1915	1.04	1.11	1.10	1.09	1.13	1.08	1.10	1.18	1.16	1.16	(1)	1.23
1916	1.40	1.47	1.43	1.43	1.47	1.28	1.37	1.44	1.41	1.48	1.71	1.83
1917	1.95	2.00	2.05	1.98	2.03	2.05	2.05	2.05	2.05	2.05	2.05	2.05
1918	2.16	2.16	2.16	2.16	2.16	2.16	2.34	2.52	2.52	2.52	2.53	2.53
1919	2.11	2.11	1.65	1.63	1.63	1.61	1.55	(1)	(1)	(1)	(1)	(1)
1920	(1)	1.93	2.14	2.16	2.04	2.06	(1)	(1)	(1)	1.63	1.58	1.38
1921	1.49	1.15	1.13	1.01	.95	.97	.98	.92	.85	.71	.78	.85
1922	.81	.90	.85	.83	.84	.84	.98	.92	.90	1.00	1.00	1.00
1923	.99	1.00	1.00	1.06	1.07	1.09	.95	1.16	1.16	(1)	(1)	(1)

Division of Statistical and Historical Research. Compiled from Broomhall's Corn Trade News. For rate of exchange used in conversion from shillings see Table 696, p. 1164.

[1] No quotations.

TABLE 112.—*Corn: Spot price per bushel of 56 pounds at Buenos Aires, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	(1)	(1)	(1)	$0.58	$0.53	$0.52	$0.51	$0.52	$0.50	$0.51	$0.52	$0.53	$0.52
1913	$0.54	$0.54	$0.54	.56	.55	.55	.55	.55	.62	.59	.58	.58	.56
1914	.55	.56	.56	.54	.59	.55	.57	[2] .56	.55	.49	.53	.54	.55
1915	.54	.61	.56	.57	.54	.50	.51	.49	.51	.51	.54	.52	.53
1916	.56	.60	.56	.51	.45	.43	.45	.51	.55	.70	1.03	.93	.61
1917	1.07	1.07	.99	1.03	1.27	1.46	1.43	1.27	.87	.85	.95	.88	1.10
1918	.79	.79	.74	.59	.53	.57	.64	.68	.65	.63	.63	.63	.66
1919	.57	.52	.47	.55	.55	.55	.96	1.07	.91	.79	.74	.71	.70
1920	.70	.71	.83	1.03	1.13	1.10	.96	.90	.92	.83	.77	.82	.89
Av. 1914–1920	.68	.69	.67	.69	.72	.74	.79	.78	.71	.69	.74	.72	.72
1921	.88	.91	.91	.78	.61	.63	.85	.66	.65	.58	.61	.63	.71
1922	.63	.73	.79	.77	.75	.71	.78	.78	.76	.74	.70	.74	.74
1923	.80	.82	.81	.80	.77	.75	.73	.69	.74	.78	.81	.79	.77

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics 1912–1921. Subsequently Review of the River Plata. Average of weekly quotations. For rate of exchange used in conversion from shillings see Table 696, p. 1164.

[1] No quotations.

[2] Interpolation, no quotation.

TABLE 113.—*Corn, yellow, La Plata: Spot price per bushel of 56 pounds at Liverpool, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	(1)	(1)	(1)	(1)	$0.97	$0.87	$0.71	$0.75	$0.78	$0.72	$0.68	$0.67	$0.77
1913	$0.71	$0.75	$0.76	$0.74	.72	.69	.67	.67	.70	.66	.63	.67	.70
1914	.65	.66	.68	.68	.74	.76	.78	.97	.93	.83	.78	.88	.77
1915	.98	1.06	1.02	1.06	1.11	.97	.92	.90	.85	.94	1.06	1.19	1.00
1916	1.40	1.44	1.42	1.43	1.47	1.33	1.45	1.54	1.39	1.48	1.69	1.81	1.49
1917	[3]1.89	1.92	2.00	2.16	(1)	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.11
1918	2.23	2.23	2.23	2.23	2.23	2.23	2.42	2.61	2.61	2.61	2.61	2.61	2.40
1919	2.04	2.04	1.75	1.74	1.74	1.72	1.65	1.66	1.69	1.68	1.65	1.52	1.74
1920	[3]1.49	[4]1.77.	[4]1.96	1.97	1.81	1.67	1.53	1.43	1.60	1.49	1.15	1.25	1.59
1921	1.28	1.22	1.30	1.28	1.18	1.09	1.05	.93	.83	.72	.78	.88	1.04
1922	.92	1.08	1.08	1.03	1.06	1.01	1.10	1.10	1.09	1.08	.96	1.00	1.04
1923	.99	1.04	1.05	1.09	1.14	1.10	1.02	.94	.98	.97	.96	1.02	1.02

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1912-21. Subsequently Broomhall's Corn Trade News.
For rate of exchange used in conversion from shillings, see Table 696, p. 1164.

[1] Not quoted. [2] Trading in maize controlled January 5, 1917. [3] Afloat price. [4] Nominal.

OATS.

TABLE 114.—*Oats: Acreage, production, value, exports, etc., United States, 1869–1923.*

Calendar year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago, cash price per bushel, No. 2 white.[2]				Domestic exports, including oatmeal, fiscal year beginning July 1.[3]	Imports, fiscal year beginning July 1.[4]
							December.		Following May.			
							Low.	High.	Low.	High.		
	1,000 acres.	*Bush. of 32 lbs.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*
1869	9,461	30.5	288,334	38.0	109,522	11.58	40	44½	46½	53½	121,517	2,266,785
1870	8,792	28.1	247,277	39.0	96,444	10.97	37½	41	47½	51	147,572	599,514
1871	8,366	30.6	255,743	36.2	92,591	11.07	30½	33	34½	42½	262,975	535,250
1872	9,001	30.2	271,747	29.9	81,304	9.03	23½	25½	30	34	714,072	225,555
1873	9,752	27.7	270,340	34.6	93,474	9.59	34	40½	44	48½	812,873	191,802
1874	10,897	22.1	240,369	47.1	113,134	10.38	51½	54½	57½	64½	504,770	1,500,040
1875	11,915	29.7	354,318	32.0	113,441	9.52	29½	30½	28½	31½	1,466,228	121,547
1876	13,359	24.0	320,884	32.4	103,845	7.77	31½	34½	37½	45½	2,854,128	41,597
1877	12,826	31.7	406,394	28.4	115,546	9.01	24½	27	23	27	3,715,479	21,391
1878	13,176	31.4	413,579	24.6	101,752	7.72	19½	20½	24½	30½	5,452,136	13,395
1879	*16,145*	27.9	450,745	33.3	150,178	9.30	32½	36½	29½	34½	766,366	489,576
1880	16,188	25.8	417,885	36.0	150,244	9.28	29½	33½	36½	39½	402,904	64,412
1881	16,832	24.7	416,481	46.4	193,199	11.48	43½	46½	48½	56½	625,660	1,350,983
1882	18,495	26.4	488,251	37.5	182,978	9.89	34½	41½	38½	42½	461,496	815,017
1883	20,325	28.1	571,302	32.7	187,040	9.20	29½	36½	30½	34½	3,274,622	121,069
1884	21,301	27.4	583,628	27.7	161,528	7.58	22½	25½	34½	37	6,203,104	94,310
1885	22,784	27.6	629,409	28.5	179,632	7.88	27	29	29½	29½	7,311,306	149,480
1886	23,658	26.4	624,134	29.8	186,138	7.87	25½	27½	25½	27½	1,374,635	139,575
1887	25,921	25.4	659,618	30.4	200,700	7.74	28½	30½	32½	38	573,080	123,817
1888	26,998	26.0	701,735	27.8	195,424	7.24	25	26½	21	23½	1,191,471	131,501

Division of Crop and Livestock Estimates. Figures in italics are census returns. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Based on Dec. 1 price.
[2] Chicago Daily Trade Bulletin. Quotations are for No. 2 to 1906; for contract 1906–1915.
[3] Oatmeal not included until 1882.
[4] Oatmeal not included 1869–1882, and 1909.

TABLE 114.—*Oats: Acreage, production, value, exports, etc., United States, 1869–1923*—Continued.

Calendar year.	Acreage harvested.	Acreage yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago, cash price per bushel, No 2 white.[2]				Domestic exports, including oatmeal, fiscal year beginning July 1.[3]	Imports, fiscal year beginning July 1.[4]
							December.		Following May.			
							High.	Low.	High.	Low.		
	1,000 acres.	*Bush. of 32 lbs.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*
1869	*23, 521*	28.3	801, 186	21.9	175, 801	6.21	20	21	24½	30	15, 107, 228	153, 282
1870	28, 102	20.4	572, 671	41.7	239, 047	8.51	39½	43½	45½	54	1, 382, 536	41, 848
1871	27, 604	30.4	839, 995	30.6	257, 251	9.32	31½	33½	28½	33½	10, 586, 644	47, 782
1872	28, 023	24.8	695, 277	31.5	218, 963	7.81	25½	31½	28½	32½	2, 700, 703	49, 433
1873	28, 453	23.8	676, 151	29.1	196, 487	6.90	27½	29½	32½	36	6, 290, 239	31, 759
1874	28, 362	25.2	715, 535	32.1	229, 451	8.09	28½	29½	27½	30½	1, 708, 824	330, 318
1875	29, 379	30.2	885, 959	19.4	172, 198	5.86	16½	17½	18	19½	15, 156, 618	66, 902
1876	29, 645	26.3	780, 124	18.3	142, 772	4.82	16½	18½	16½	18½	37, 725, 063	131, 204
1877	28, 353	27.9	791, 442	20.8	164, 836	5.81	21	23½	26	32	73, 880, 307	25, 093
1878	28, 769	29.3	842, 747	25.2	212, 482	7.39	26	27½	24	27½	33, 534, 362	26, 008
1879	*29, 540*	31.3	925, 555	24.5	226, 588	7.67	22½	23	21½	23½	45, 048, 857	54, 576
1900	30, 290	30.2	913, 800	25.4	232, 074	7.66	21½	22½	27½	31	42, 268, 931	32, 107
1901	29, 894	26.0	778, 392	39.7	308, 796	10.33	42	48½	41	49½	13, 277, 612	38, 978
1902	30, 578	34.5	1, 053, 489	30.6	322, 423	10.54	29½	32	33½	38½	8, 381, 805	150, 065
1903	30, 866	28.2	869, 350	34.0	295, 232	9.56	34½	38	39½	44½	1, 960, 740	183, 963
1904	31, 353	32.2	1, 008, 931	31.1	313, 488	10.00	28½	32	28½	32	8, 394, 692	55, 699
1905	32, 072	34.0	1, 090, 236	28.9	314, 868	9.82	29½	32½	32½	34½	48, 434, 541	40, 025
1906	33, 353	31.0	1, 035, 576	31.9	329, 853	9.89	33	35½	44½	48½	6, 386, 334	91, 289
1907	33, 641	23.9	805, 108	44.5	358, 421	10.65	46½	50½	52½	56½	2, 518, 855	383, 418
1908	34, 006	25.0	850, 540	47.3	402, 010	11.82	48½	50½	56½	62½	2, 383, 817	6, 691, 700
1909	*35, 159*	30.4	1, 068, 290	40.6	433, 869	12.34	40	45	36½	43½	2, 548, 726	1, 034, 511
1910	37, 548	31.6	1, 186, 341	34.4	408, 388	10.88	31	32½	31½	36	3, 845, 850	107, 318
1911	37, 763	24.4	922, 298	45.0	414, 663	10.98	46½	47½	50½	53	2, 677, 749	2, 622, 357
1912	37, 917	37.4	1, 418, 337	31.9	452, 469	11.93	31	31½	35½	43	36, 455, 474	723, 809
1913	38, 399	29.2	1, 121, 768	39.2	439, 596	11.45	37½	40½	37	42½	2, 748, 743	22, 273, 624
Av. 1909–1913	37, 357	30.6	1, 143, 407	37.6	429, 797	11.51	37.2	39.4	38.2	44.6	9, 655, 308	5, 352, 342
1914	38, 442	29.7	1, 141, 060	43.8	499, 431	12.99	46½	49½	50½	56	100, 809, 272	630, 722
1915	40, 996	37.8	1, 549, 030	36.1	559, 506	13.65	40½	44	39½	49½	98, 969, 481	665, 314
1916	41, 527	30.1	1, 251, 337	52.4	655, 928	15.80	46½	54	59½	74	95, 105, 698	761, 644
1917	43, 553	36.6	1, 592, 740	66.6	1, 061, 474	24.37	70½	80½	72	79½	125, 090, 611	2, 591, 077
1918	44, 349	34.7	1, 538, 124	70.9	1, 090, 322	24.59	66	74½	67½	74½	109, 004, 734	551, 355
1919	40, 359	29.3	1, 184, 030	70.4	833, 922	20.66	78½	89	100½	117½	43, 435, 994	6, 043, 834
1920	42, 491	35.2	1, 496, 261	46.0	688, 311	16.20	47	52	36½	43½	9, 391, 096	3, 795, 588
Av. 1914–1920	41, 674	33.4	1, 393, 300	55.3	769, 842	18.47	56.7	63.4	60.9	70.5	83, 085, 412	2, 148, 512
1921	45, 495	23.7	1, 078, 341	30.2	325, 954	7.16	34½	42½	37½	45	21, 236, 742	1, 733, 282
1922	40, 790	29.8	1, 215, 808	39.4	478, 948	11.74	43½	50	42	74½	25, 413, 343	293, 208
1923[5]	40, 883	31.8	1, 299, 823	41.5	539, 353	13.21	----	----	----	----	----------	----------

Division of Crop and Livestock Estimates. Figures in italics are census returns. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Based on Dec. 1 price.
[2] Chicago Daily Trade Bulletin. Quotations are for No. 2 to 1906; for contract 1906–1915.
[3] Oatmeal not included until 1882.
[4] Oatmeal not included 1869–1882, and 1909.
[5] Preliminary.

TABLE 115.—*Oats: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Maine	124	120	125	4,340	4,560	4,625	2,387	2,143	2,590
New Hampshire	18	18	18	630	684	675	378	410	432
Vermont	81	90	88	2,673	3,060	3,080	1,577	1,714	1,940
Massachusetts	9	10	9	279	340	315	165	214	198
Rhode Island	1	1	1	28	31	32	17	19	19
Connecticut	11	11	10	330	308	290	198	200	180
New York	1,038	1,059	1,017	24,912	31,770	32,747	11,709	16,203	18,011
New Jersey	72	72	68	1,728	2,232	1,632	778	1,228	898
Pennsylvania	1,238	1,170	1,170	35,262	39,780	33,930	15,877	19,094	17,644
Delaware	6	7	7	168	161	182	77	92	109
Maryland	60	58	59	1,920	1,740	1,758	729	887	949
Virginia	163	166	163	3,342	3,320	3,596	1,672	1,959	2,259
West Virginia	210	200	196	4,620	4,600	4,704	2,402	2,668	2,964
North Carolina	170	220	231	3,060	4,620	5,082	2,142	3,095	3,761
South Carolina	338	406	447	8,112	9,744	10,728	5,922	7,405	8,797
Georgia	412	474	521	8,652	8,532	9,378	5,537	6,399	7,971
Florida	41	37	33	533	481	396	346	370	317
Ohio	1,550	1,472	1,516	35,650	39,744	52,302	11,764	17,885	23,536
Indiana	1,912	1,506	1,739	45,888	31,626	48,692	13,308	12,650	18,990
Illinois	4,504	3,860	3,860	121,741	110,010	135,100	35,305	42,904	52,689
Michigan	1,544	1,498	1,528	28,101	50,932	48,896	10,116	20,882	21,025
Wisconsin	2,632	2,465	2,539	63,958	101,558	92,166	21,106	39,608	39,631
Minnesota	4,145	4,021	4,142	99,480	142,746	153,254	22,880	45,679	52,106
Iowa	6,340	5,874	5,639	164,840	217,925	203,004	37,913	76,274	75,111
Missouri	2,148	1,200	1,380	42,960	19,200	34,500	12,888	8,448	15,525
North Dakota	2,568	2,388	2,388	48,792	78,804	54,924	10,246	20,489	15,379
South Dakota	2,650	2,400	2,304	58,300	74,400	78,336	11,660	23,808	24,284
Nebraska	2,585	2,408	2,456	70,054	56,106	81,048	14,711	19,076	27,556
Kansas	1,894	1,494	1,338	38,827	27,639	34,922	10,483	11,382	15,016
Kentucky	293	234	225	5,567	4,282	4,725	2,672	2,398	2,646
Tennessee	260	229	205	5,330	4,122	4,305	2,558	2,185	2,583
Alabama	308	277	277	6,776	5,540	4,792	4,404	4,155	3,834
Mississippi	147	125	120	2,940	2,375	2,280	1,882	1,568	1,733
Louisiana	55	56	56	1,265	1,249	1,232	886	962	838
Texas	1,865	1,455	1,470	33,570	33,465	47,040	13,092	18,406	26,813
Oklahoma	1,765	1,500	1,200	35,300	30,000	24,000	9,531	13,500	12,480
Arkansas	300	264	269	6,600	6,600	6,187	2,970	3,762	3,836
Montana	618	660	673	14,832	21,120	22,209	5,043	7,814	8,439
Wyoming	150	158	175	4,500	4,898	5,950	1,710	1,959	2,796
Colorado	217	185	198	6,727	4,625	6,336	2,220	2,081	2,915
New Mexico	61	53	58	1,690	827	1,160	811	480	812
Arizona	18	20	19	630	620	570	410	422	456
Utah	79	86	81	2,876	3,354	3,062	1,064	1,576	1,776
Nevada	3	2	3	113	74	106	55	56	86
Idaho	180	162	170	7,740	6,156	7,820	2,477	2,832	3,441
Washington	210	202	210	10,500	7,918	11,970	4,410	4,592	5,985
Oregon	272	267	270	8,704	6,675	10,530	3,308	3,805	4,738
California	140	150	162	3,780	5,250	5,265	1,928	3,360	3,159
United States	45,495	40,790	40,833	1,078,341	1,215,803	1,299,823	325,954	478,948	539,253.

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 116.—*Oats: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	34.0	37.0	42.4	33.5	34.6	40.0	38.5	41.0	40.0	36.0	29.0	40.0	34.0	41.8	37.4	35.0	38.0	37.0
New Hampshire	30.6	31.5	42.8	33.8	39.0	35.0	36.4	38.0	38.0	37.0	35.0	38.0	34.0	39.0	37.4	35.0	38.0	37.5
Vermont	33.3	32.2	41.5	35.0	43.0	39.0	38.1	42.5	43.0	32.0	36.0	41.0	30.0	35.0	37.1	33.0	34.0	35.0
Massachusetts	33.0	31.0	35.5	35.0	34.0	35.0	34.1	37.0	36.0	32.0	37.0	40.0	38.0	34.0	36.3	31.0	34.0	35.0
Rhode Island	31.0	25.0	35.0	29.0	28.6	26.0	28.7	27.5	33.0	27.0	31.0	42.0	30.0	26.0	31.2	28.0	31.0	32.0
Connecticut	32.6	27.5	36.8	35.1	30.7	28.0	31.6	29.0	32.5	30.0	33.0	38.0	31.0	38.0	31.9	30.0	28.0	29.0
New York	30.1	28.2	34.5	29.5	30.8	33.5	31.3	31.5	40.5	26.0	35.0	41.0	25.5	38.5	34.0	24.0	30.0	32.2
New Jersey	30.7	25.5	37.1	28.5	27.6	29.0	29.5	29.0	32.5	30.0	34.0	40.0	30.0	32.0	32.5	24.0	31.0	24.0
Pennsylvania	27.3	26.0	35.2	28.3	33.1	31.0	30.7	30.0	38.0	31.0	35.0	39.0	31.0	39.0	34.7	28.5	34.0	29.0
Delaware	29.8	25.5	33.8	30.0	30.5	30.5	30.1	27.0	33.5	30.0	32.0	35.0	23.0	33.0	30.5	28.0	23.0	26.0
Maryland	25.5	25.4	30.0	27.0	30.0	28.0	28.1	27.0	34.0	29.5	31.0	33.0	28.0	32.5	30.7	27.0	30.0	29.8
Virginia	19.1	19.0	22.0	20.0	22.2	21.5	20.9	15.5	25.0	23.5	24.5	23.0	22.0	21.9	22.2	20.5	20.0	22.0
West Virginia	19.0	22.0	25.2	22.0	28.0	24.0	24.2	20.0	29.0	23.0	27.0	27.0	25.0	27.0	25.4	22.0	23.0	24.0
North Carolina	16.5	16.5	18.2	16.5	18.6	19.5	17.9	17.5	23.0	17.5	16.0	17.0	16.7	22.0	18.5	18.0	21.0	22.0
South Carolina	20.0	21.0	21.0	20.4	21.5	23.5	21.5	20.0	19.0	18.0	15.0	22.0	23.0	24.0	20.1	24.0	24.0	24.0
Georgia	17.2	19.0	18.2	21.5	20.8	22.0	20.3	20.0	19.5	19.5	16.0	20.0	20.0	21.0	19.4	21.0	18.0	18.0
Florida	14.5	17.0	16.2	13.5	17.2	18.0	17.4	18.0	20.0	15.0	14.0	18.0	19.0	17.0	17.3	13.0	13.0	12.0
Ohio	26.4	32.5	37.2	32.1	44.0	30.2	35.2	30.5	41.0	28.0	44.0	44.0	33.5	44.2	37.9	23.0	27.0	34.5
Indiana	21.2	30.5	35.4	28.7	40.1	21.4	31.2	28.5	40.0	30.0	42.0	42.0	32.0	41.0	36.5	24.0	21.0	28.0
Illinois	23.0	36.6	38.0	28.8	43.3	23.8	34.1	29.3	45.0	38.5	52.0	44.0	30.0	39.5	39.8	26.5	28.5	35.0
Michigan	29.7	30.5	34.0	28.6	34.9	30.0	31.6	33.5	42.0	30.0	36.0	40.0	25.0	39.6	35.2	18.2	34.0	32.0
Wisconsin	31.1	35.0	29.8	29.8	37.3	36.5	33.7	27.0	46.5	37.0	44.0	46.6	33.4	44.8	39.9	24.3	41.2	36.3
Minnesota	22.0	33.0	28.7	22.8	41.7	37.8	32.8	28.0	43.0	36.5	37.0	41.0	28.0	37.5	35.9	24.0	35.5	37.0
Iowa	24.3	27.0	37.8	25.5	44.2	34.5	33.8	33.0	40.0	37.0	47.0	42.0	34.6	39.0	38.9	26.0	37.1	36.0
Missouri	19.3	27.0	33.6	14.8	33.0	21.2	25.9	21.5	26.0	25.0	40.0	29.0	27.0	30.5	28.4	20.0	16.0	25.0
North Dakota	23.4	32.0	7.0	23.5	41.4	25.7	25.9	28.0	40.0	21.5	15.0	23.5	15.5	24.0	28.9	19.0	33.0	23.0
South Dakota	23.0	30.0	23.0	7.4	33.8	26.5	24.1	27.5	42.0	30.5	34.0	39.0	29.0	34.0	33.7	22.0	31.0	34.0
Nebraska	22.0	25.0	28.0	13.9	24.4	26.5	23.6	32.0	32.0	35.5	38.0	22.2	32.8	34.6	32.4	27.1	23.3	33.0
Kansas	22.0	28.2	33.3	15.0	32.0	19.5	25.6	33.5	26.5	28.5	31.0	22.0	28.1	30.7	27.9	20.5	18.5	26.1
Kentucky	16.2	22.3	25.0	18.4	26.9	19.8	22.5	21.0	26.0	21.0	26.0	24.0	22.5	23.5	23.4	19.0	18.3	21.0
Tennessee	21.0	20.0	23.0	19.5	21.7	21.0	21.0	23.0	24.5	21.0	25.0	25.0	22.0	19.8	22.9	20.5	18.0	21.0
Alabama	18.0	16.5	18.5	19.2	20.0	20.5	18.9	22.0	19.0	17.5	18.0	19.0	18.0	18.0	18.8	22.0	20.0	17.3
Mississippi	17.5	16.0	19.2	18.4	17.4	20.0	18.2	23.0	21.5	18.0	19.0	20.0	16.0	17.0	19.2	20.0	19.0	19.0
Louisiana	20.0	20.0	21.5	21.0	20.8	22.0	21.1	23.0	25.0	19.0	22.3	25.0	22.0	23.0	22.8	23.0	22.3	22.0
Texas	28.9	18.7	35.0	25.1	36.0	32.5	29.5	25.0	35.5	28.5	26.0	14.7	42.0	22.0	27.7	18.0	23.0	22.0
Oklahoma	25.0	29.0	36.5	9.0	25.1	18.0	23.5	27.5	27.0	12.5	23.0	24.0	33.0	33.0	25.7	20.0	20.0	20.0
Arkansas	21.4	22.8	27.5	20.0	19.9	26.5	23.3	24.0	27.0	21.0	28.0	25.5	22.0	25.0	24.6	22.0	25.0	23.0
Montana	41.6	51.3	38.0	49.8	48.0	43.5	46.1	35.0	52.0	38.0	20.0	30.0	9.4	22.0	29.5	24.0	32.0	33.0
Wyoming	36.4	35.0	32.0	34.5	41.8	38.0	36.3	35.0	42.0	35.0	36.0	41.0	18.0	38.0	35.0	30.0	31.0	34.0
Colorado	39.5	38.0	39.1	35.0	42.8	35.0	38.0	40.0	39.0	33.0	38.0	30.0	26.2	31.5	34.0	31.0	25.0	32.0
New Mexico	33.5	40.0	27.4	38.8	34.7	30.0	34.2	38.0	36.0	29.0	30.0	28.0	36.0	27.4	32.1	27.7	15.6	20.0
Arizona	36.0	37.0	40.1	42.0	44.7	43.0	41.4	42.0	37.0	37.5	40.0	40.0	38.0	27.0	37.4	35.0	31.0	30.0
Utah	49.5	46.1	43.0	44.7	46.4	46.0	45.2	50.0	47.0	43.5	44.0	45.0	34.0	33.8	42.5	36.4	39.0	37.8
Nevada	45.0	40.0	44.7	45.0	40.0	43.0	42.5	52.0	45.0	43.0	40.0	38.0	32.0	37.2	41.0	37.7	37.2	35.4
Idaho	44.0	44.5	38.5	44.0	48.9	46.5	44.5	44.0	47.0	43.0	38.0	40.0	35.0	38.0	40.7	43.0	38.0	46.0
Washington	44.5	49.0	42.8	51.7	48.2	47.5	47.8	47.0	50.0	52.0	38.5	27.0	40.0	46.6	43.0	50.0	39.2	47.0
Oregon	33.4	37.8	34.5	34.7	38.2	42.3	37.5	35.0	44.0	48.0	25.0	25.0	31.3	36.5	35.0	32.0	25.0	39.0
California	33.5	31.4	37.0	34.0	39.0	31.6	34.6	35.0	33.0	32.5	35.0	32.0	30.0	30.0	32.5	27.0	35.0	32.5
United States	25.0	30.4	31.6	24.4	37.4	29.2	30.6	29.7	37.8	30.1	36.6	34.7	29.4	35.2	33.4	23.7	29.8	31.8

Division of Crop and Livestock Estimates.

TABLE 117.—*Oats: Condition of crop, 1st of month, and yield per acre, United States, 1866–1923.*

Calendar year.	June.	July.	Aug.	Sept.[1]	Yield per acre.	Calendar year.	June.	July.	Aug.	Sept.[1]	Yield per acre.
	P. ct.	P. ct.	P. ct.	P. ct.	Bush.		P. ct.	P. ct.	P. ct.	P. ct.	Bush.
1866	90.3	105.6	113.3	------	30.2	1901	85.3	83.7	73.6	72.1	26.0
1867	96.3	101.9	100.0	106.7	27.6	1902	90.6	92.1	89.4	87.2	34.5
1868	102.6	109.6	104.0	92.2	26.4	1903	85.5	84.3	79.5	75.7	28.2
1869	100.5	114.5	108.5	111.6	30.5	1904	89.2	89.8	86.6	85.6	32.2
1870	95.2	93.4	94.5	96.1	28.1	1905	92.9	92.1	90.8	90.3	34.0
1871	96.0	93.8	95.1	97.6	30.6	1906	85.9	84.0	82.8	81.9	31.0
1872	99.3	103.2	99.6	97.4	30.2	1907	81.6	81.0	75.6	65.5	23.9
1873	96.7	90.3	93.7	92.0	27.7	1908	92.9	85.7	76.8	69.7	25.6
1874	94.2	90.0	72.5	86.0	22.1						
1875	93.5	100.7	90.0	87.0	29.7	1909	88.7	88.3	85.5	83.8	30.4
						1910	91.0	82.2	81.5	83.3	31.6
1876	98.9	100.0	86.0	81.0	24.0	1911	85.7	68.8	65.7	64.5	24.4
1877	95.1	101.7	98.0	106.0	31.7	1912	91.1	89.2	90.3	92.3	37.4
1878	103.0	101.0	100.0	97.0	31.4	1913	87.0	76.3	73.8	74.0	29.2
1879	81.0	87.0	91.0	91.7	27.9						
1880	93.0	96.0	90.6	88.0	25.8	Av.1909–1913	88.7	81.0	79.4	79.6	30.6
1881	92.0	98.0	97.0	92.3	24.7	1914	89.5	84.7	79.4	75.8	29.7
1882	101.0	103.0	102.0	100.0	26.4	1915	92.2	93.9	91.6	91.1	37.8
1883	96.0	99.0	100.0	99.0	28.1	1916	86.9	86.3	81.5	78.0	30.1
1884	98.0	98.0	94.0	95.0	27.4	1917	88.8	89.4	87.2	90.4	36.6
1885	94.0	97.0	96.0	93.0	27.6	1918	93.2	85.5	82.8	84.4	34.7
						1919	93.2	87.0	76.5	73.0	29.4
1886	95.9	88.8	87.4	90.9	26.4	1920	87.8	84.7	87.2	88.3	35.2
1887	91.0	85.9	85.6	83.4	25.4						
1888	95.4	95.2	91.7	87.2	26.0	Av.1914–1920	90.2	87.4	83.7	83.0	33.4
1889	93.8	94.1	92.3	90.0	28.3						
1890	89.8	81.6	70.1	64.4	20.4	1921	85.7	77.6	64.5	61.1	23.7
						1922	85.5	74.4	75.6	74.9	29.8
1891	85.1	87.6	89.5	90.7	30.4	1923	85.6	83.5	81.9	80.3	31.8
1892	88.5	87.2	86.2	78.9	24.8						
1893	88.9	88.8	78.3	74.9	23.8						
1894	87.0	77.7	76.5	77.8	25.2						
1895	84.3	83.2	84.5	86.0	30.2						
1896	98.8	96.3	77.3	74.0	20.3						
1897	89.0	87.5	86.0	84.6	27.9						
1898	98.0	92.8	84.2	79.0	29.3						
1899	88.7	90.0	90.8	87.2	31.3						
1900	91.7	85.5	85.0	82.9	30.2						

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 118.—*Oats: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
1909	7.9	5.2	0.6	0.8	1.1	0.9	0.8	17.7	2.4	0.5	0.1	0.4	22.2
1910	17.0	.8	.2	.7	.4	1.7	.3	21.4	.9	.6	.2	.2	24.0
1911	27.6	1.0	(2)	.5	.3	5.1	.1	35.4	.7	1.5	.1	.2	39.5
1912	7.2	3.1	.3	.5	1.0	1.1	.5	14.1	1.6	.7	.1	.2	17.7
1913	22.7	.7	.2	.2	.6	1.8	.2	27.2	.5	1.1	.1	.1	30.3
1914	15.7	2.2	.2	.3	.8	2.6	.4	22.7	2.0	1.7	.1	.1	27.5
1915	1.4	8.5	.9	.4	1.0	.1	.8	13.2	2.1	.3	.1	.2	16.3
1916	10.1	4.0	.4	.6	.8	2.8	.5	19.7	5.1	1.8	(2)	.1	27.2
1917	11.8	1.2	.2	2.7	.8	1.0	.3	18.2	.8	.4	(2)	(2)	19.8
1918	12.9	.5	.2	1.3	.9	1.8	.3	18.1	1.1	.9	(2)	.2	20.7
1919	11.5	5.7	.4	.4	.7	2.8	.4	22.3	4.9	2.2	(2)	.1	29.9
1920	6.4	2.7	.3	.4	.8	.9	.4	12.1	2.3	1.4	.1	.1	16.3
1921	18.3	2.3	.2	2.6	.8	5.9	.6	31.0	5.2	2.1	------	.1	38.9
1922	14.6	3.8	.4	.4	1.2	1.4	.3	22.0	3.2	1.8	.1	.1	27.6

Division of Crop and Livestock Estimates.

[1] Includes all other causes.

[2] Less than 0.05 per cent.

TABLE 119.—*Oats: Area and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Area.					Yield per acre.				
	Average 1909–1913.	1920	1921	1922	1923, preliminary.	Average 1909–1913.	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Canada	9,597	15,850	16,949	14,541	13,274	36.6	33.5	25.2	33.8	40.0
United States	37,357	42,491	45,495	40,790	40,833	30.6 [4]	35.2	23.7	29.8	31.8
Total comparable with 1923	46,954	58,341	62,444	55,331	54,107					
EUROPE.										
United Kingdom:										
England and Wales	2,039	2,266	2,148	2,157	1,976	47.5	46.2	45.5	42.0	47.0
Scotland	952	1,032	1,012	988	968	46.8	48.7	46.2	47.5	47.4
Ireland	1,049	1,332	1,254	1,214		62.1	49.1	44.8	50.7	
Norway	264	342	342	301	301	38.9	44.1	37.9	44.5	
Sweden	1,961	1,762	1,757	1,799	1,800	43.9	39.9	42.7	43.9	37.1
Denmark	[1] [2] 1,059	1,091	1,112	1,118	1,118	[1] 51.7	46.6	46.0	52.2	
Netherlands	346	395	383	394	379	52.2	51.8	52.2	45.2	63.2
Belgium	644	586	603	717	652	66.1	57.8	58.4	49.9	55.8
Luxemburg	77	62	64	71	64	43.9	29.5	19.4	21.5	39.2
France	[2] 9,800	8,278	8,421	8,491	8,545	36.3	35.2	29.0	33.9	44.2
Spain	1,276	1,588	1,575	1,514	1,505	22.8	23.8	22.6	20.6	25.3
Portugal		452	403	482	482		13.6	13.9	26.3	
Italy	[2] 1,253	[2] 1,159	[2] 1,199	1,214	1,223	20.5	20.9	32.0	25.1	32.5
Switzerland	81	56	52	51	51	59.1	55.7	58.4	48.4	60.0
Germany	[2] 10,750	7,940	7,814	7,912	8,262	55.1	41.9	44.1	36.0	49.8
Austria	[2] 4,613	628	664	704	801	35.7	25.5	28.6	26.0	32.5
Czechoslovakia		1,961	1,903	2,016	2,081		30.1	37.7	35.5	41.5
Hungary	[2] 2,918	802	885	811	856	31.1	27.8	24.8	27.8	29.8
Yugoslavia	[3] [4] 265	1,029	1,003	983		[4] 11.6	21.6	18.9	18.6	
Greece	[1] 74	160			180	[1] 30.1	26.2			33.1
Bulgaria	[2] 447	345	331	352	344	21.5	20.3	20.1	26.0	29.2
Rumania	[5] 1,283	2,388	3,062	3,295	3,350	25.8	28.6	21.7	27.9	19.0
Poland	[6] (4,203)	4,118	4,753	5,879	6,114	24.8	31.3	31.6	29.4	42.5
Lithuania	[6] (726)	704	706	769	816	25.1	20.2	23.7	37.6	28.6
Latvia	[6] (710)	533	622	681	764	25.6	14.6	27.1	26.7	26.9
Esthonia	[6] (339)	351	353	399	399	25.6	22.9	25.0	25.2	24.6
Finland	999	976	1,038	988	1,038	20.4	11.5	27.0	28.5	20.5
Russia, including Ukraine and Northern Caucasia	[6] (35,847)			16,249		22.0			19.7	
Total comparable with 1909–1913	84,035									
Total comparable with 1923		89,985			44,159					
AFRICA.										
Morocco		21	22	28	33		10.9	25.2	6.4	34.9
Algeria	449	555	553	583	596	30.0	12.4	18.7	9.4	26.8
Tunis	133	150	159	112	121	27.4	9.9	26.0	7.1	22.8
Total comparable with 1909–1913	582	705	712	695	717					
Total comparable with 1923		726	734	723	750					
ASIA.										
Cyprus		10	17	15			24.0	15.0	17.6	
Russia (Asiatic)	5,742			2,044		18.8			17.7	
Japanese Empire (Chosen)	[4] 141	229		272		[4] 15.6	18.2		18.9	
Total comparable with 1909–1913	5,883			2,316						
Total Northern Hemisphere comparable with 1909–1913	137,454									
Total Northern Hemisphere comparable with 1923		99,052			99,016					

[1] One year only.
[2] Old boundaries.
[3] Former Kingdom of Serbia.
[4] Three-year average.
[5] Includes Bessarabia.
[6] Preliminary estimate of Russian territory within 1923 boundaries.

TABLE 119.—*Oats: Area and yield per acre in undermentioned countries*—Con.

SOUTHERN HEMISPHERE.

Country.	Area.					Yield per acre.				
	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Chile	78	79	60	76	68	42·7	39.9	48.2	40·4	.....
Uruguay	[7] 65	128	107	87	161	[7] 19.8	19.5	19.3	11.5	.....
Argentina	2,396	2,061	2,105	2,618	2,747	22.6	23.1	15.7	20.9	21.3
Union of South Africa	[1] 819	609	530	.....	.....	[1] 11.9	9.7	9.8	.....	.....
Australia	545	937	733	.....	.....	.....	24.7	20.7	.....	.....
New Zealand	366	148	171	143	141	49.1	44.1	49.6	29.7	.....
Total comparable with 1909–1913	4,260	3,962	3,706	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	.....	2,416	2,443	2,923	3,117	.....	.....	.....	.....	.....
World total comparable with 1909–1913	141,714	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable with 1923	.....	101,468	.....	.....	102,133	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Parenthesis denote interpolated figures.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] One year only [7] Four-year average.

TABLE 120.—*Oats: Production in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Average, 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	351,690	403,010	425,312	394,387	530,710	426,233	491,239	531,378
United States	1,143,407	1,592,740	1,538,124	1,184,030	1,496,281	1,078,341	1,215,803	1,299,823
Total comparable with 1923	1,495,097	1,995,750	1,964,436	1,578,417	2,026,991	1,504,574	1,707,042	1,831,201
EUROPE.								
United Kingdom:								
England and Wales	96,013	105,934	139,805	111,316	104,774	97,622	90,508	92,898
Scotland	44,507	53,108	62,256	51,724	50,281	46,732	46,917	[1] 45,864
Ireland	65,169	94,662	101,399	85,540	65,388	56,238	61,589	.....
Norway	19,276	17,004	16,582	15,106	15,078	12,960	13,380	10,002
Sweden	80,050	61,400	56,084	74,094	69,914	75,070	78,953	66,758
Denmark	[2] 53,576	37,653	41,571	47,583	50,794	52,158	58,403	.....
Netherlands	18,079	17,658	18,617	18,500	20,443	20,001	17,817	23,943
Belgium	42,595	12,834	.....	27,360	33,865	35,225	35,783	36,356
Luxemburg	3,382	1,616	1,550	1,700	1,829	1,243	1,527	2,509
France	[2] 355,278	[2] 220,336	[2] 180,553	[2] 179,823	291,406	244,455	[2] 288,264	377,470
Spain	29,110	33,001	30,474	32,915	37,772	[3] 35,616	31,214	40,434
Portugal	.....	4,541	4,563	4,620	6,145	5,616	12,669	.....
Italy	[2] 86,945	[2] 23,859	[2] 45,353	[2] 34,095	[2] 24,223	[4] 38,415	30,465	39,800
Switzerland	4,784	4,209	5,069	2,811	3,121	3,085	2,460	3,059
Germany	[2] 891,666	[5] 249,944	[5] 301,389	[5] 309,687	382,499	344,612	284,567	411,076
Austria	[2] 164,469	10,991	12,993	13,581	16,698	19,600	18,317	26,918
Czechoslovakia	.....	.....	.....	.....	69,654	74,667	71,552	96,265
Hungary	[2] 90,890	.....	.....	.....	22,607	21,964	22,353	25,167
Yugoslavia	[6] [7] 3,079	.....	.....	.....	22,244	18,967	18,272	19,253
Greece	[2] 2,228	3,566	4,540	3,827	4,787	4,134	.....	5,994
Bulgaria	[2] 9,595	5,991	3,579	5,791	7,005	6,657	9,144	10,052

[1] Commercial estimate.
[2] Old boundaries.
[3] Includes production in Alsace Lorraine.
[4] Includes 627,000 bushels grown in Venezia Tridentina and Venezia Giulia.
[5] Excludes production in Alsace Lorraine.
[6] Former Kingdom of Serbia.
[7] Three-year average.
[8] One year only.

TABLE 120.—*Oats: Production in undermentioned countries*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Average, 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
EUROPE—continued.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Rumania	[9] 33,097	----------	5,890	22,824	68,349	66,856	92,074	63,701
Poland	[10](105,755)	----------	----------	----------	129,061	150,286	172,621	259,867
Lithuania	[10](18,203)	----------	----------	15,315	14,223	18,154	28,943	23,324
Latvia	[10](18,205)	----------	----------	----------	7,790	16,843	18,171	20,518
Esthonia	[10](8,095)	----------	----------	7,702	8,022	8,840	10,038	9,800
Finland	20,391	18,802	19,228	20,286	11,247	28,029	28,199	21,288
Russia, including Ukraine and Northern Caucasia	[10](824,615)	----------	----------	----------	----------	----------	319,570	----------
Total comparable with 1909-1913	2,737,879	----------	----------	----------	----------	----------	----------	----------
Total comparable with 1923	1,794,519	----------	----------	----------	1,355,293	1,388,643	----------	1,722,466
AFRICA.								
Morocco	----------	165	267	201	228	555	1,180	1,151
Algeria	13,489	18,601	21,564	10,743	6,855	10,334	5,570	15,949
Tunis	3,642	3,996	4,271	3,100	1,481	4,134	792	2,756
Total comparable with 1909-1913	17,131	22,597	25,835	13,843	8,336	14,468	6,362	18,705
Total comparable with 1923	----------	22,762	26,102	14,044	8,564	15,023	6,542	19,856
ASIA.								
Cyprus	515	371	407	210	240	255	264	----------
Russia (Asiatic)	107,687	----------	----------	----------	----------	----------	36,094	----------
Japanese Empire: Chosen	[7] 2,202	3,610	4,730	2,432	4,184	----------	5,136	----------
Total comparable with 1909-1913	110,404	----------	----------	----------	----------	----------	41,494	----------
Total Northern Hemisphere, comparable with 1909-1913	4,360,511	----------	----------	----------	----------	----------	----------	----------
Total Northern Hemisphere, comparable with 1923	----------	----------	----------	----------	3,390,848	2,908,240	----------	3,573,523

SOUTHERN HEMISPHERE.

Country.	Average, 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
Chile	3,333	3,177	2,020	2,590	3,155	2,893	3,029	----------
Uruguay	[11] 1,284	3,697	1,288	1,479	2,502	2,069	999	----------
Argentina	54,246	75,783	33,762	57,113	47,619	32,973	54,666	58,560
Union of South Africa [12]	[8] 9,661	10,475	6,389	4,686	5,909	5,180	----------	----------
Australia	17,768	12,984	13,051	15,695	23,151	15,184	----------	----------
New Zealand	17,977	6,178	8,606	8,710	6,531	8,441	7,110	----------
Total comparable with 1909-1913	104,269	112,294	65,116	90,273	88,867	66,746	----------	----------
Total comparable with 1923	54,246	75,783	33,762	57,113	47,619	32,973	54,666	58,560
World total comparable with 1909-1913	4,464,780	----------	----------	----------	----------	----------	----------	----------
World total comparable with 1923	----------	----------	----------	----------	3,438,467	2,941,213	----------	3,632,083

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Parentheses denote interpolation.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[7] Three-year average.
[8] One year only.
[9] Includes Bessarabia.
[10] Preliminary estimate of former Russian territory within 1923 boundaries.
[11] Four-year average.
[12] Exclusive of production in native locations which produced 299,644 bushels in 1917–18 and 67,270 bushels in 1920–21.

TABLE 121.—*Oats: World production, 1894–1923.*

Year.	Production in countries reporting all years 1894–1923.	Production as reported.	Estimated world totals (preliminary).	Three selected countries.		
				Russia.[1]	Germany.	France.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1894	1,885,275	2,872,863	3,039,717	743,953	453,328	294,344
1895	2,039,081	3,026,778	3,213,431	717,314	430,205	305,742
1896	1,868,604	2,894,896	3,113,148	799,833	411,259	296,205
1897	1,810,951	2,680,919	2,889,281	663,714	393,979	253,257
1898	2,045,803	2,995,851	3,181,262	687,584	465,317	321,562
1899	2,099,348	3,333,003	3,620,889	995,307	474,174	307,914
1900	2,086,228	3,226,625	3,470,581	853,697	488,590	285,313
1901	1,902,240	2,810,028	2,960,683	624,098	485,711	254,900
1902	2,304,423	3,557,569	3,812,029	930,679	514,447	319,691
1903	2,178,550	3,326,743	3,621,951	799,785	542,427	344,329
1904	2,162,947	3,561,205	3,832,755	1,124,266	477,847	290,902
1905	2,248,847	3,474,967	3,752,142	930,665	451,013	305,736
1906	2,374,494	3,430,518	3,713,918	714,272	580,869	295,110
1907	2,264,041	3,526,136	3,775,336	921,175	630,318	352,712
1908	2,165,982	3,729,862	3,783,767	959,414	530,126	327,159
1909	2,570,179	4,530,467	4,546,147	1,163,076	628,712	383,139
1910	2,520,718	4,252,783	4,257,893	1,064,516	544,287	331,866
1911	2,257,513	3,964,808	3,976,991	876,013	530,764	349,247
1912	2,822,328	4,738,090	4,756,725	1,089,365	586,987	355,089
1913	2,647,659	4,781,258	4,798,558	1,250,590	669,231	357,049
1914	2,492,811	4,131,958	4,148,447	[2] 914,913	622,674	318,333
1915	2,604,450	4,513,559	4,581,429	[2] 1,022,107	412,400	238,551
1916	2,424,824	3,126,676	4,023,526	----------	484,007	277,117
1917	2,382,705	3,122,116	3,882,136	----------	[3] 249,964	[3] 220,336
1918	2,382,177	3,113,316	3,777,336	----------	[3] 301,839	[3] 180,553
1919	2,006,599	2,772,076	3,283,092	----------	[3] 309,587	[3] 179,823
1920	2,437,471	3,606,466	3,836,484	----------	[3] 332,490	[3] 291,406
1921	2,000,212	3,089,253	3,323,268	----------	[3] 344,812	[3] 244,455
1922	2,106,189	3,684,938	3,709,954	----------	[3] 284,567	[3] 288,264
1923	2,422,121	3,632,083	4,142,849	----------	[3] 411,676	[3] 377,470

Division of Statistical and Historical Research.

For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern.

[1] Includes all Russian territory reporting for years named. European Russia includes 50 governments in Europe, 10 governments of Poland, and 1 government and 2 provinces of Northern Caucasia; Asiatic Russia during 1899 to 1905 included statistics from 4 governments of Siberia, 4 provinces in Central Asia, and the small government of the Black Sea in Transcaucasia. In 1906 no statistics were available for Akmolinsk, one of the 4 provinces of Central Asia which had been previously reported but to the other governments and provinces reporting were added statistics for Ural, 3 provinces of Turkestan, and 10 governments and provinces of Transcaucasia. Subsequently Asiatic Russia included 8 governments and provinces of Siberia; 4 provinces of the Steppes, 4 provinces of Turkestan, and Ural in Central Asia; and 11 governments and provinces of Transcaucasia. The territory supplying statistical data remained the same after 1906, although in the annual publication of the Division of Rural Economics and Agricultural Statistics of the Ministry of Agriculture for 1915 (published in 1917) the Central Statistical Committee departed from its usual grouping of the provinces of the Steppes and of Turkestan.

[2] Excludes Poland.

[3] New boundaries.

TABLE 122.—*Oats: Monthly marketings by farmers, United States, 1917–1922.*

Year beginning July 1.	Percentage of year's receipts as reported by about 3,500 mills and elevators.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	4.7	16.4	13.5	11.1	7.7	7.8	8.3	8.0	7.1	6.5	4.0	4.9	100.0
1918–19	8.0	19.6	11.9	9.9	7.2	6.7	6.7	4.5	5.5	6.3	7.0	6.7	100.0
1919–20	14.4	18.4	10.1	9.2	5.8	8.3	8.2	6.6	4.9	4.3	5.2	4.6	100.0
1920–21	8.3	18.7	13.8	9.5	5.5	5.8	6.6	6.6	6.0	4.6	6.8	7.8	100.0
1921–22	15.1	16.5	11.8	7.9	5.3	6.1	7.3	6.9	5.6	4.3	7.2	6.0	100.0
1922–23	8.9	15.7	11.9	10.1	7.8	8.6	7.4	7.1	6.5	4.7	5.4	5.9	100.0

Division of Crop and Livestock Estimates.

TABLE 123.—*Oats: Farm stocks, shipments, and quality, United States, 1897–1923.*

Year.	Old stocks on farms Aug. 1	Crop.			Total supplies.	Stocks on farms Mar. 1 following.[1]	Shipped out of county where grown.[1]
		Quantity.	Weight per bushel.[2]	Quality.[3]			
	1,000 bush.	*1,000 bush.*	*Pounds.*	*Per cent.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1897–98	80,153	791,442	30.5	87.6	871,595	380,943	245,469
1898–99	51,352	842,747	29.7	94.5	894,099	328,684	283,695
1899–1900	59,999	925,535	31.3	89.5	984,616	338,283	274,146
1900–1	64,420	913,800	31.1	89.2	978,220	332,284	288,997
1901–2	55,128	778,392	30.7	83.7	833,520	241,596	152,462
1902–3	32,449	1,053,489	31.0	86.7	1,085,938	390,872	280,233
1903–4	78,598	869,350	29.7	79.9	947,948	304,128	250,492
1904–5	46,394	1,008,931	31.5	91.4	1,055,325	392,861	300,534
1905–6	62,872	1,090,236	32.7	92.4	1,153,108	437,290	319,871
1906–7	77,578	1,035,576	32.0	88.2	1,113,149	413,480	229,441
1907–8	73,196	805,108	29.4	77.0	878,304	258,104	221,147
1908–9	40,538	850,540	29.8	81.3	891,068	294,082	253,920
1909–10	27,476	1,068,249	32.7	91.4	1,095,767	385,705	343,998
1910–11	66,666	1,186,341	32.7	93.8	1,253,007	442,605	363,103
1911–12	67,601	922,298	31.1	84.6	990,099	289,969	265,944
1912–13	34,675	1,418,237	33.0	91.6	1,453,212	604,249	438,139
1913–14	103,216	1,121,708	32.1	89.1	1,225,684	419,481	297,365
1914–15	62,467	1,141,660	31.5	86.5	1,203,527	379,369	335,760
1915–16	55,607	1,549,039	33.0	87.5	1,604,637	598,148	466,823
1916–17	113,728	1,251,837	31.2	88.2	1,365,565	394,211	355,092
1917–18	47,824	1,592,749	33.4	95.1	1,640,574	599,208	514,117
1918–19	81,424	1,538,124	33.2	93.6	1,619,548	590,251	421,568
1919–20	93,045	1,184,930	31.1	84.7	1,277,975	409,730	342,364
1920–21	54,819	1,496,281	33.1	93.3	1,551,100	683,759	431,667
1921–22	161,108	1,078,349	28.3	74.7	1,239,457	411,934	258,259
1922–23	74,513	1,215,803	32.0	87.7	1,290,316	421,118	303,856
1923–24 [4]	70,965	1,299,628	32.1	87.9	1,370,788	444,810	320,889

Division of Crop and Livestock Estimates.

[1] Based on percentage of crop as reported by crop reporters.
[2] Average weight per measured bushel as reported by crop reporters.
[3] Per cent of a "high medium grade" as reported by crop reporters.
[4] Preliminary.

TABLE 124.—*Oats: Visible supply in United States, first of month, 1909–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1909–10	3,800	5,183	12,709	13,264	13,586	11,189	8,759	8,639	9,916	9,223	6,905	4,245
1910–11	2,761	12,551	18,802	17,022	15,505	16,129	15,997	15,769	13,129	10,559	8,126	9,570
1911–12	11,203	20,742	21,044	22,600	20,315	18,754	15,431	14,366	13,429	11,991	8,062	3,690
1912–13	1,031	4,160	9,260	10,552	10,774	8,457	9,646	12,343	13,115	8,704	8,105	14,756
1913–14	17,131	24,662	30,718	31,084	29,954	26,909	24,450	21,489	19,755	13,262	8,144	7,210
Av. 1909–1913	7,185	13,460	18,525	19,024	17,969	16,286	14,857	14,521	13,869	10,748	7,866	7,894
1914–15	6,462	20,124	27,286	31,866	32,471	32,956	33,173	32,258	27,284	23,022	12,623	4,345
1915–16	1,309	2,924	14,381	15,730	20,928	21,681	20,175	26,265	17,892	12,096	16,192	12,452
1916–17	8,537	27,691	38,866	45,580	47,467	48,823	42,675	36,749	24,191	28,938	17,454	9,741
1917–18	5,679	7,277	14,165	17,453	18,596	17,657	13,879	13,947	18,098	21,911	20,822	13,227
1918–19	7,876	19,309	24,699	22,980	22,143	24,828	20,595	27,668	22,862	21,507	15,827	18,094
1919–20	20,481	19,411	19,552	19,196	16,922	13,080	11,550	10,401	9,576	6,813	8,642	3,025
1920–21	3,786	8,149	27,602	34,414	33,961	32,194	33,632	34,142	33,903	30,740	28,420	34,401
Av. 1914–1920	7,879	14,984	23,791	26,613	28,498	26,602	25,513	25,309	23,494	20,717	17,141	13,669
1921–22	37,582	60,455	65,863	69,898	69,198	67,728	68,010	68,529	64,044	55,837	47,969	42,749
1922–23	35,987	38,855	35,958	34,877	33,940	32,392	30,861	27,682	24,044	21,932	13,514	6,528
1923–24	5,477	10,111	16,514	20,488	18,685							

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin. Reported on the Saturday nearest the first of each month.

TABLE 125.—*Oats: Receipts and shipments, 11 primary markets, 1909–1923.*

Year beginning Aug. 1.	Chicago.		Milwaukee.		Minneapolis.		Duluth.		St. Louis.		Toledo.	
	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments	Receipts.	Shipments.	Receipts.	Shipments.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1909–10	85,999	72,501	9,496	7,423	15,599	14,531	7,866	7,432	20,048	14,765	3,070	3,162
1910–11	107,902	89,705	14,644	14,873	18,419	13,845	2,434	2,824	20,517	15,323	3,700	3,435
1911–12	87,623	70,090	10,863	8,194	10,555	10,043	4,529	4,639	16,879	11,280	2,872	2,611
1912–13	117,103	116,275	16,252	20,180	19,031	16,397	9,350	8,351	23,785	16,592	3,637	4,365
1913–14	105,738	98,141	18,434	17,172	22,995	24,272	5,795	6,761	25,967	19,497	3,655	2,819
Av. 1909–1913	100,873	89,342	13,978	13,570	17,320	15,818	5,983	6,001	21,439	15,491	3,507	3,278
1914–15	143,813	130,939	29,963	31,179	23,042	23,147	9,065	8,395	24,419	18,240	6,006	5,089
1915–16	151,169	122,289	35,252	34,389	45,778	45,094	4,844	4,529	17,518	11,636	4,707	3,501
1916–17	145,076	108,152	32,767	28,649	31,322	23,076	3,184	493	24,610	18,940	4,926	2,642
1917–18	134,310	96,725	31,766	20,128	42,047	42,181	766	680	37,431	32,129	5,303	3,194
1918–19	115,714	83,719	34,727	30,548	37,031	33,019	2,663	2,378	30,812	23,536	9,010	8,820
1919–20	82,141	69,792	25,572	17,766	17,954	19,038	1,035	1,664	21,391	22,772	3,221	1,601
1920–21	79,430	54,598	19,065	13,297	26,003	14,600	6,241	455	30,103	21,387	5,848	2,339
Av. 1914–1920	121,664	92,458	30,007	25,137	31,750	28,593	3,963	2,992	27,613	20,991	5,583	3,884
1921–22	77,829	63,418	28,241	17,869	32,367	26,260	6,065	10,129	25,949	20,160	4,604	2,348
1922–23	84,451	65,055	21,057	17,162	24,870	38,320	1,372	2,130	32,229	26,064	3,786	2,290
1922												
August	10,533	7,759	1,569	1,061	4,066	2,727	297	459	2,580	2,368	398	74
September	9,493	6,907	1,833	1,260	3,783	3,978	417	232	1,766	1,309	230	87
October	9,235	5,045	2,236	1,549	3,421	4,307	175	131	2,810	2,091	390	249
November	8,260	7,292	1,936	1,558	2,203	3,013	79	280	2,986	2,493	242	122
December	8,435	4,847	2,121	1,902	2,430	3,809	4	19	2,636	1,656	742	24
1923												
January	6,447	5,389	1,945	1,843	2,293	3,208	26	19	4,058	3,141	139	59
February	5,677	4,404	1,947	1,413	1,467	2,242	53	41	1,908	1,906	107	62
March	6,367	6,167	1,690	1,465	1,697	2,437	32	39	2,926	2,426	247	224
April	4,737	4,109	1,251	1,439	1,284	3,080	17	6	2,824	2,818	193	572
May	4,696	5,167	1,132	1,501	730	3,167	37	4	2,532	2,079	238	117
June	4,177	4,465	1,023	990	930	3,359	41	318	2,748	2,283	370	253
July	6,154	3,564	1,774	1,145	671	2,998	284	582	2,452	2,274	439	386

Year beginning Aug. 1.	Detroit.		Kansas City.		Peoria.		Omaha.		Indianapolis.		Total.	
	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.	Receipts.	Shipments.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1909–10	2,488	383	5,165	4,508	10,875	11,795	(1)	(1)	(1)	(1)	161,146	136,420
1910–11	3,073	265	6,280	4,066	10,130	10,895	(1)	(1)	(1)	(1)	187,299	155,234
1911–12	2,752	348	6,018	5,071	6,658	8,737	8,868	9,256	976	394	158,593	130,665
1912–13	3,535	514	7,794	7,523	11,447	13,198	14,958	14,862	8,136	2,876	234,938	221,068
1913–14	3,807	649	11,325	11,032	12,152	13,894	15,977	18,575	5,392	1,898	231,237	214,539
Av. 1909–1913	3,131	432	7,298	6,440	10,252	11,066					194,643	171,582
1914–15	4,028	1,123	7,338	6,107	11,189	11,726	13,648	13,916	5,828	4,349	275,338	252,139
1915–16	5,173	2,202	4,882	2,582	11,364	11,838	11,421	10,961	13,797	8,677	305,904	257,708
1916–17	3,911	934	10,059	10,130	13,562	11,049	18,216	17,302	14,895	10,891	302,473	235,347
1917–18	3,677	607	18,344	12,826	20,170	17,541	23,673	21,945	19,822	13,705	337,279	251,661
1918–19	8,179	1,756	16,688	11,343	8,535	8,212	20,601	20,559	14,820	4,516	298,840	228,706
1919–20	2,418	551	7,615	5,180	10,636	13,096	13,018	12,110	16,969	4,023	209,070	158,008
1920–21	3,345	750	7,137	5,132	9,176	7,906	10,223	8,423	16,509	6,099	213,080	134,986
Av. 1914–1920	4,390	1,145	10,295	7,614	12,090	11,624	15,837	15,044	14,234	7,466	277,426	216,936
1921–22	2,285	330	7,262	5,043	14,210	12,254	10,665	9,768	13,052	6,247	217,468	175,826
1922–23	3,444	326	10,568	6,147	15,555	15,147	14,772	16,174	10,585	3,471	222,680	192,826
1922												
August	316	49	650	675	1,379	1,076	1,258	1,322	1,586	232	24,482	17,502
September	302	46	599	305	1,245	1,383	1,102	932	936	328	21,710	16,792
October	270	32	793	406	1,762	1,559	1,340	1,068	983	268	23,405	16,615
November	354	4	1,468	488	1,590	1,607	1,744	1,308	846	218	21,048	18,293
December	356	12	1,043	460	1,457	1,374	1,050	1,221	382	190	20,656	15,514
1923												
January	433	52	1,163	658	1,870	1,768	1,366	1,694	1,308	244	21,044	18,075
February	240	61	801	618	848	763	965	1,064	576	318	14,709	12,809
March	281	40	936	767	1,348	1,499	1,494	1,748	960	434	17,968	17,246
April	234	16	1,504	672	1,143	1,122	1,674	2,038	832	454	15,693	16,326
May	252	8	617	636	747	822	654	1,434	980	408	12,615	15,283
June	204	2	606	465	1,085	1,026	1,102	1,304	724	240	13,910	14,711
July	202	4	338	297	1,081	1,148	973	1,041	472	137	14,840	13,570

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the annual reports of the Chicago Board of Trade.

(1) No report.

TABLE 126.—*Oats: Classification of cars graded by licensed inspectors, all inspection points.*

Year beginning Aug. 1.	Total of all classes and subclasses under each grade, annual inspections, 1919–1922.											
	Receipts						Shipments.					
	No. 1.	No. 2.	No. 3.	No. 4.	Sample.	Total.	No. 1	No. 2.	No. 3.	No. 4.	Sample.	Total.
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1919–20	5,662	52,094	96,039	15,887	3,589	173,271	3,167	41,094	62,764	4,100	692	111,817
1920–21	8,803	60,169	73,072	14,766	6,831	163,641	3,600	45,099	31,811	2,821	2,220	85,551
1921–22	2,519	31,643	105,103	31,774	6,664	177,703	2,384	49,117	72,955	4,305	1,675	130,436
1922–23	2,548	47,347	95,984	17,004	4,640	167,523	1,738	45,563	62,601	6,112	1,235	117,249
Class.	Total inspections by grade and class, August 1, 1922, to July 31, 1923.											
White	2,101	45,333	94,390	16,559	4,011	162,394	1,601	44,457	62,157	6,059	970	115,244
Red	329	1,531	1,272	340	124	3,596	116	934	409	34	8	1,501
Gray	46	31	27	25	7	136	1	2				3
Mixed	72	452	295	80	498	1,397	20	170	35	19	257	501

Year beginning Aug. 1.	Total of all classes and subclasses under each grade, annual inspections, 1919–1922.											
	Receipts.						Shipments.					
	No. 1.	No. 2.	No. 3.	No. 4.	Sample.	Total.	No. 1.	No. 2.	No. 3.	No. 4.	Sample.	Total.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1919–20	3.3	30.0	55.4	9.2	2.1	100	2.8	36.8	56.1	3.7	0.6	100
1920–21	5.4	36.8	44.6	9.0	4.2	100	4.2	52.7	37.2	3.3	2.6	100
1921–22	1.4	17.8	59.1	17.9	3.8	100	1.8	37.7	55.9	3.3	1.3	100
1922–23	1.5	28.3	57.3	10.1	2.8	100	1.5	38.9	53.4	5.2	1.0	100
Class.	Total inspections by grade and class, August 1, 1922, to July 31, 1923.											
White	1.3	27.9	58.1	10.2	2.5	100	1.4	38.6	53.9	5.3	0.8	100
Red	9.1	42.6	35.4	9.5	3.4	100	7.7	62.2	27.3	2.3	0.5	100
Gray	33.8	22.8	19.9	18.4	5.1	100	33.3	66.7				100
Mixed	5.1	32.4	21.1	5.7	35.7	100	4.0	33.9	7.0	3.8	51.3	100

TABLE 127.—*Oats, including oatmeal: International trade, 1910–1923.*

Country.	Year ending July 31.							
	Average, 1910–1914.		1920–21		1921–22		1922–23, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	79	4, 102	4, 190	773	286	10, 123	[1] 509	2, 081
Argentina [2]	55	42, 569	20	28, 425	----	26, 907	----	19, 511
Australia [3]	898	270	186	1, 205	25	428	----	----
British India	[4] 87	[4] 43	1	51	1	37	----	[5] 67
Bulgaria	----	178	----	2	(5)	20	----	----
Canada	90	14, 771	987	25, 606	354	31, 544	[3] 964	[3] 26, 115
Chile [2]	2	2, 469	31	196	7	1, 832	----	----
Finland	----	----	26	39	(5)	132	[5] 590	[5] 421
Hungary	1, 420	12, 416	----	509	6	572	[1] 12	[1] 1, 344
Italy	8, 212	65	9, 018	2	4, 688	10	[3] 12, 243	[3] 6
Latvia	----	----	18	----	33	218	[1] 79	[1] 1, 473
Rumania	[4] 72	[4] 10, 493	4	7, 310	----	12, 592	(1) (5)	20, 800
Russia	1, 206	70, 466	----	----	----	----	----	----
Tunis	2	2, 875	70	1, 472	2	3, 403	[1] 61	722
Union of South Africa [2]	366	434	389	114	183	283	173	143
United States	5, 184	8, 312	3, 104	4, 133	1, 738	19, 685	[3] 293	[3] 25, 413
Yugoslavia	----	----	----	914	----	1	----	----
PRINCIPAL IMPORTING COUNTRIES.								
Austria	2, 205	114	521	1	937	4	[1] 3, 102	[1] 182
Belgium	8, 486	52	7, 293	4	10, 205	20	[3] 8, 656	[3] 119
Brazil [2]	[6] 26	----	42	----	22	(5)	----	----
Czechoslovakia	----	----	280	559	1, 807	10	[1] 538	[1] 65
Denmark	4, 687	152	226	94	765	148	[3] 1, 048	[3] 326
France	29, 972	115	5, 828	8, 991	26, 317	656	[3] 17, 509	[3] 1, 031
Germany	36, 977	33, 744	104	[7] 50	7, 269	564	[3] 7, 126	[3] 117
Greece	----	----	413	(5)	136	----	[1] 87	----
Japan	5	42	2	26	3	----	[1] 31	----
Netherlands	38, 862	30, 771	2, 821	405	4, 485	611	[3] 5, 191	[3] 683
Norway	[3] 497	[3] 27	290	182	981	3	[3] 588	[3] 20
Poland	----	----	----	----	440	14	[1] 43	[1] 8
Sweden	6, 468	1, 899	1, 525	191	2, 169	3, 851	[3] 1, 436	[3] 1, 763
Switzerland	12, 464	13	2, 419	6	7, 917	1	[8] 9, 541	[1] 1
United Kingdom	63, 624	----	30, 230	441	30, 777	882	[3] 36, 610	[3] 339
Total countries reported	222, 036	236, 392	70, 038	81, 701	101, 553	114, 551	106, 520	102, 750

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1922, except figures with footnotes (2) and (3), which are compiled from official sources.

[1] Ten months ending May 31.
[2] Calendar years, 1909–1922.
[3] Years ending June 30.
[4] Average for the seasons 1911–12 to 1913–14
[5] Less than 500 bushels.
[6] 1913 only.
[7] Eight months, Aug.–Dec. 1920, and May-July, 1921.
[8] Season 1913–1914.
[9] Eleven months.

TABLE 128.—*Oats, including oatmeal: Net imports and net exports, principal countries 1907–1923.*

Year ending July 31.	Imports.						Exports.				
	Belgium.	France.	Italy.	Netherlands.	Switzerland.	United Kingdom.	Rumania.	Russia.	Canada.	United States.[1]	Algeria.
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
1906–7	1,850	27,782	3,916	1,758	9,206	43,437	(2)	34,772	11,340	6,295	3,660
1907–8	3,172	7,631	4,216	3,457	9,691	49,879	(2)	28,590	4,674	2,135	3,942
1908–9	3,529	16,602	5,124	3,955	9,542	55,746	(2)	59,617	7,381	[3] 4,358	4,343
1909–10	6,930	16,470	6,569	9,629	12,354	74,411	(2)	89,324	8,929	1,514	3,238
1910–11	8,433	40,341	11,239	4,951	12,795	61,771	(2)	107,592	8,063	3,739	5,170
1911–12	6,186	18,674	6,844	8,283	11,824	68,998	11,891	58,575	11,785	55	4,637
1912–13	12,428	29,957	11,711	8,998	13,387	78,432	1,101	53,772	15,524	35,732	1,691
1913–14	7,778	41,249	4,371	8,593	11,963	59,000	18,271	37,034	38,537	[3] 19,525	5,377
1914–15	(2)	32,164	15,150	1,868	7,502	57,772	374	378	12,265	99,979	3,266
1915–16	(2)	58,016	34,203	4,412	5,397	49,960	6,437	[3] 37	57,159	98,295	6,371
1916–17	(2)	74,699	[1] 30,275	[1] 5,563	[1] 5,682	[1] 37,300	(2)	(2)	[1] 57,985	94,344	[1] 7,572
1917–18	(2)	33,998	[1] 22,187	[1] 167	[1] 2,402	[1] 50,280	(2)	(2)	[1] 45,238	[1] 22,500	[1] 5,596
1918–19	1,954	35,843	[1] 20,940	[1] 893	[1] 2,387	[1] 42,666	[3] 210	(2)	[1] 15,729	108,453	[1] 7,014
1919–20	4,549	29,923	1,086	2,268	6,564	22,569	[3] 123	(2)	14,673	37,322	4,572
1920–21	7,289	[5] 3,164	9,016	2,417	2,414	29,789	7,306	(2)	24,619	5,595	[3] 3,418
1921–22	10,185	25,661	4,679	3,874	7,916	29,895	12,592	(2)	31,190	19,503	9,337
1922–23	[1] 8,538	16,567	[1] 12,236	[1] 4,508	[4] 9,540	[1] 36,271	20,800	(2)	[1] 25,151	25,120	[4] 1,578

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics 1915–16, 1922, and official sources.

[1] Year ending June 30.
[2] Not available.
[3] Net import.
[4] Ten months ending May 31.
[5] Net export.

TABLE 129.—*Oats: Farm price per bushel, 1st of month, United States, 1908–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted av., crop year.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–9	49.8	47.2	47.2	46.5	47.2	48.1	48.1	51.1	53.2	55.3	57.4	56.2	49 3
1909–10	50.0	42.3	41.0	41.0	40.2	42.8	45.0	46.0	45.6	43.3	43.0	42.1	43 1
1910–11	41.7	38.4	36.2	34.9	34.4	33.2	33.1	32.8	32.3	33.2	34.7	37.5	35.7
1911–12	49.2	40.4	42.5	43.8	45.0	45.1	47.5	49.8	52.0	56.0	55.3	52.5	45.5
1912–13	44.3	35.0	33.6	33.6	31.9	32.2	32.4	33.1	33.1	34.2	36.0	37.7	34.7
1913–14	37.6	39.3	39.6	37.9	39.2	39.1	39.3	38.9	39.5	39.5	40.0	38.8	39.0
Av. 1909–1913	42.8	39.1	38.6	38.2	38.1	38.5	39.5	40.1	40.5	41.2	41.8	41.7	39.6
1914–15	36.7	42.3	43.3	42.9	43.8	45.0	50.1	52.1	58.4	53.4	51.3	46.7	45.3
1915–16	45.4	38.5	34.5	34.9	36.1	39.1	44.6	42.7	42.0	42.6	42.1	40.4	39.3
1916–17	40.1	43.1	44.5	49.0	52.4	51.4	55.2	56.9	61.5	71.0	69.9	68.9	51.7
1917–18	73.7	61.7	62.3	61.7	66.6	73.9	78.7	86.2	88.9	86.9	78.1	76.3	70.9
1918–19	73.0	70.3	71.0	68.2	70.9	70.8	64.3	62.6	65.8	70.9	71.2	70.9	69.4
1919–20	75.3	71.7	68.4	68.7	70.4	78.2	82.7	84.5	90.7	98.3	102.9	104.5	78.5
1920–21	81.9	70.2	60.7	54.5	46.0	45.6	41.8	41.9	39.3	36.8	37.9	36.6	53.8
Av. 1914–1920	60.9	56.8	55.0	54.3	55.2	57.7	59.6	61.0	63.1	65.6	64.8	63.3	58.4
1921–22	33.8	30.1	31.0	29.2	30.2	31.0	32.8	36.6	36.5	37.9	38.4	37.3	33.5
1922–23	35.0	32.2	34.5	38.2	39.4	41.2	41.8	43.1	43.9	45.7	44.9	42.5	38.5
1923–24	37.8	37.3	38.6	40.2	41.5	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 130.—*Oats: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	9113	Av. 1909–1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920.	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Maine	60	58	48	54	51	55	53	57	45	67	85	90	92	85	74	55	47	56	17.86
New Hampshire	59	64	51	61	48	56	56	58	54	69	84	87	85	75	73	60	60	64	22.80
Vermont	62	59	50	59	48	52	52	55	52	65	85	90	90	75	73	59	56	63	19.04
Massachusetts	62	58	50	58	47	54	53	56	51	66	81	91	90	80	74	59	63	63	21.42
Rhode Island	64	53	48	58	45	50	51	58	50	68	75	90	95	80	74	60	60	60	18.60
Connecticut	58	52	44	56	49	55	51	55	55	60	70	90	88	75	73	60	65	52	18.20
New York	56	49	42	51	42	47	46	51	45	62	75	84	83	67	67	47	51	55	15.30
New Jersey	55	50	44	50	44	47	47	54	46	61	70	79	80	75	67	45	55	55	17.05
Pennsylvania	55	50	41	50	41	46	46	51	44	57	73	80	80	66	64	45	48	52	16.32
Delaware	54	48	43	47	45	51	47	50	51	62	78	87	90	70	70	46	57	60	13.11
Maryland	53	49	46	49	45	48	47	52	49	61	75	86	82	70	68	45	51	54	15.30
Virginia	55	54	49	54	52	52	52	58	55	63	84	100	100	81	77	56	59	63	11.80
West Virginia	56	54	50	56	47	51	52	55	51	64	79	91	91	79	73	52	53	63	13.34
North Carolina	63	66	60	63	62	61	62	65	62	74	93	108	106	96	86	70	67	74	14.07
South Carolina	75	72	65	72	66	71	69	71	67	80	100	118	110	103	93	73	76	82	18.24
Georgia	72	71	64	70	65	68	68	70	66	79	117	119	115	108	96	64	75	85	13.50
Florida	72	75	65	75	70	70	71	70	70	71	98	115	120	60	86	65	77	80	8.84
Ohio	49	41	35	45	33	40	39	45	36	53	64	70	72	50	56	33	45	45	12.15
Indiana	47	39	31	43	30	38	36	43	34	51	63	67	69	46	53	29	40	39	8.40
Illinois	47	38	30	42	30	38	36	44	35	51	65	67	70	43	54	29	39	39	11.12
Michigan	49	41	35	46	33	39	39	45	35	53	64	69	71	48	55	36	41	43	13.94
Wisconsin	47	39	34	45	32	37	37	43	36	51	66	67	70	49	55	33	39	43	16.07
Minnesota	43	35	32	40	26	32	33	40	32	47	63	63	64	36	49	23	32	34	11.36
Iowa	42	35	27	41	27	34	33	41	32	48	63	64	64	36	50	23	35	37	12.98
Missouri	45	43	32	45	35	45	40	44	38	53	61	70	71	49	55	30	44	45	7.04
North Dakota	42	33	37	41	22	30	33	37	27	44	62	61	67	35	48	21	26	28	8.58
South Dakota	41	34	30	43	25	34	33	38	28	46	61	59	63	33	47	20	32	31	9.92
Nebraska	41	35	28	43	30	38	35	40	31	47	61	65	65	37	49	21	34	34	7.92
Kansas	45	43	34	45	35	45	40	42	37	55	64	73	73	39	55	27	41	43	7.58
Kentucky	54	51	45	50	44	52	48	53	48	60	76	90	91	73	70	48	56	56	10.25
Tennessee	53	53	46	50	47	53	50	53	50	62	83	93	93	78	73	48	53	60	9.54
Alabama	66	70	60	66	62	69	65	69	63	75	102	107	105	88	87	65	75	80	15.00
Mississippi	67	68	55	65	60	63	62	65	60	74	94	107	105	87	85	64	66	76	12.54
Louisana	64	62	49	65	51	57	57	63	55	68	94	99	100	82	80	70	69	68	15.39
Texas	52	62	47	54	43	51	51	48	42	61	82	92	64	66	65	39	55	57	12.65
Oklahoma	45	46	37	48	34	45	42	41	35	57	75	94	79	44	58	27	45	52	9.00
Arkansas	53	59	46	53	50	53	52	53	52	68	75	98	98	78	72	45	57	62	14.25
Montana	49	42	46	40	35	32	39	39	32	47	81	80	91	51	60	34	37	38	11.84
Wyoming	50	50	50	50	37	40	45	48	43	60	80	80	112	62	69	38	40	47	12.40
Colorado	54	58	46	48	38	44	46	45	41	60	76	80	90	60	65	33	45	46	11.25
New Mexico	64	66	62	57	45	60	58	45	50	67	84	89	95	80	73	48	58	70	9.05
Arizona	74	70	90	60	70	50	70	70	64	80	96	120	100	96	89	65	68	80	21.08
Utah	48	52	48	47	49	40	47	43	45	61	85	97	98	80	73	37	47	58	18.38
Nevada	65	59	63	62	52	65	60	55	55	75	96	118	100	120	88	75	75	81	27.90
Idaho	47	50	42	40	35	32	40	38	34	54	77	94	98	68	66	32	46	44	17.48
Washington	48	48	48	45	40	40	44	42	37	51	81	98	93	72	68	42	58	50	22.74
Oregon	47	52	47	44	41	38	44	45	37	49	75	96	92	65	66	38	57	48	14.25
California	67	66	50	59	55	60	58	53	50	72	85	94	96	80	76	51	64	60	22.40
United States.	47.3	40.6	34.4	45.0	31.9	39.2	38.2	43.8	36.1	52.4	68.6	70.9	71.5	46.0	55.3	30.2	39.4	41.5	11.74

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 131.—*Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1899–1923.*

CHICAGO.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
1899–1900	$0.22	$0.23	$0.25	$0.25	$0.24	$0.24	$0.25	$0.26	$0.26	$0.25	$0.25	$0.25	$0.24
1900–1901	.23	.24	.24	.25	.25	.26	.27	.27	.28	.29	.29	.35	.26
1901–2	.37	.37	.38	.42	.47	.47	.44	.44	.44	.44	.48	.49	.43
1902–3	.35	.33	.32	.31	.32	.34	.35	.34	.34	.35	.39	.38	.34
1903–4	.35	.37	.36	.36	.36	.39	.43	.40	.41	.42	.42	.40	.38
1904–5	.34	.32	.30	.31	.30	.31	.31	.32	.31	.32	.32	.32	.32
1905–6	.27	.28	.29	.31	.31	.31	.30	.30	.32	.34	.38	.37	.31
1906–7	.31	.32	.33	.33	.35	.36	.40	.42	.42	.45	.45	.45	.37
1907–8	.46	.49	.49	.47	.50	.50	.51	.52	.52	.53	.51	.55	.50
1908–9	.49	.49	.48	.49	.50	.50	.54	.54	.55	.59	.56	.48	.52
1909–10	.38	.39	.40	.40	.44	.48	.47	.44	.42	.40	.38	.41	.42
1910–11	.35	.34	.32	.32	.32	.33	.31	.31	.32	.34	.39	.44	.33
1911–12	.41	.45	.47	.48	.47	.50	.52	.53	.57	.55	.53	.49	.50
1912–13	.33	.33	.33	.32	.33	.33	.33	.32	.35	.38	.40	.40	.35
1913–14	.42	.43	.40	.40	.40	.39	.39	.39	.39	.40	.40	.37	.40
Av. 1909–1913	.38	.39	.38	.38	.39	.41	.40	.40	.41	.41	.42	.42	.40
1914–1915	.42	.48	.46	.48	.49	.53	.58	.57	.57	.54	.49	.53	.50
1915–16	.41	.34	.36	.36	.42	.48	.45	.42	.44	.43	.39	.41	.41
1916–17	.44	.46	.49	.55	.53	.57	.56	.61	.69	.70	.67	.78	.54
1917–18	.61	.60	.60	.65	.77	.82	.89	.93	.89	.77	.77	.77	.71
1918–19	.70	.72	.69	.72	.72	.65	.58	.63	.70	.69	.70	.78	.70
1919–20	.73	.68	.70	.73	.82	.86	.86	.93	1.01	1.09	1.13	.91	.80
1920–21	.70	.62	.54	.51	.48	.44	.42	.42	.36	.39	.37	.34	.51
Av. 1914–1920	.57	.56	.55	.57	.60	.62	.62	.64	.67	.66	.65	.65	.60
1921–22	.32	.35	.31	.33	.34	.34	.36	.36	.38	.38	.37	.36	.35
1922–23	.32	.38	.42	.43	.44	.43	.44	.45	.46	.45	.43	.40	.41
1923–24	.38	.40	.43	.43	.44								

Compiled from the Chicago Daily Trade Bulletin.

KANSAS CITY.

1899–1900	$0.22	$0.22	$0.23	$0.24	$0.24	$0.24	$0.24	$0.24	$0.26	$0.24	$0.24	$0.25	$0.24
1900–1[1]	.22	.23	.24	.24	.24	.25	.26	.27	.29	.30	.29	.38	.26
1901–2[1]	.39	.38	.38	.43	.47	.47	.45	.45	.45	.44	.45	.47	.43
1902–3	.32	.32	.32	.31	.32	.35	.34	.34	.33	.34	.44	.37	.34
1903–4	.34	.38	.35	.34	.35	.37	.41	.39	.40	.42	.40	.40	.37
1904–5	.35	.32	.30	.30	.31	.31	.32	.32	.30	.32	.31	.33	.32
1905–6	.26	.27	.28	.30	.31	.31	.31	.31	.32	.34	.37	.37	.31
1906–7	.30	.32	.33	.33	.34	.36	.40	.41	.42	.45	.45	.45	.38
1907–8	.48	.48	.48	.44	.49	.49	.49	.51	.49	.51	.51	.50	.49
1908–9	.48	.48	.47	.48	.49	.50	.51	.53	.54	.56	.56	.50	.51
1909–10	.41	.41	.40	.39	.44	.48	.46	.45	.42	.40	.35	.40	.42
1910–11	.34	.33	.32	.32	.32	.32	.31	.30	.32	.32	.39	.43	.34
1911–12	.41	.46	.49	.48	.48	.50	.53	.53	.57	.54	.52	.44	.50
1912–13	.34	.33	.32	.34	.33	.38	.39	.36	.48	.40	.40	.38	.37
1913–14	.40	.47	.45	.47	.47	.34	.33	.33	.35	.36	.39	.37	.40
Av. 1909–1913	.38	.40	.40	.40	.41	.40	.40	.39	.43	.40	.41	.40	.41
1914–15	.47	.47	.45	.47	.48	.53	.56	.57	.55	.54	.46	.51	.54
1915–16	.38	.35	.36	.39	.42	.44	.47	.43	.44	.43	.39	.45	.40
1916–17	.45	.46	.48	.55	.54	.56	.58	.63	.71	.71	.67	.75	.58
1917–18	.59	.60	.60	.67	.76	.83	.90	.91	.91	.77	.72	.74	.72
1918–19	.74	.72	.70	.69	.72	.67	.61	.66	.71	.71	.70	.69	.66
1919–20	.73	.66	.69	.74	.81	.87	.89	.92	1.06	1.12	1.11	.91	.83
1920–21	.72	.63	.55	.51	.49	.46	.43	.43	.37	.40	.37	.35	.50
Av. 1914–1920	.58	.56	.55	.57	.60	.62	.63	.65	.68	.67	.63	.63	.60
1921–22	.32	.35	.32	.32	.33	.36	.37	.37	.37	.39	.37	.36	.34
1922–23	.33	.38	.42	.44	.45	.44	.44	.46	.47	.45	.43	.40	.43
1923–24	.40	.40	.43	.42	.44								

Compiled from Kansas City Daily Price Current.

Division of Statistical and Historical Research.

[1] 1901 compiled from Kansas City Star.

TABLE 131A.—*Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1909–1923.*

MINNEAPOLIS.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
1909-10	$0.36	$0.37	$0.36	$0.38	$0.41	$0.46	$0.45	$0.43	$0.40	$0.39	$0.36	$0.42	$0.39
1910-11	.35	.36	.30	.31	.30	.31	.29	.29	.32	.33	.37	.42	.33
1911-12	.41	.44	.46	.46	.46	.48	.50	.52	.54	.54	.50	.47	.47
1912-13	.34	.31	.31	.29	.30	.31	.31	.30	.32	.35	.38	.38	.33
1913-14	.40	.40	.37	.37	.37	.36	.36	.37	.36	.38	.38	.35	.38
Av. 1909-1913	.37	.38	.36	.36	.37	.38	.38	.38	.39	.40	.40	.41	.38
1914-15	.42	.46	.44	.46	.46	.52	.56	.56	.55	.52	.46	.50	.48
1915-16	.37	.33	.34	.35	.40	.46	.45	.41	.42	.42	.38	.38	.38
1916-17	.44	.44	.47	.53	.49	.55	.56	.60	.67	.69	.66	.75	.52
1917-18	.55	.58	.58	.62	.76	.81	.88	.92	.88	.74	.75	.74	.71
1918-19	.68	.69	.65	.69	.69	.64	.56	.60	.68	.66	.66	.74	.66
1919-20	.70	.65	.67	.69	.80	.83	.82	.89	1.08	1.05	1.15	.94	.80
1920-21	.66	.58	.51	.47	.44	.41	.39	.39	.33	.36	.34	.34	.48
Av. 1914-1920	.55	.53	.52	.54	.58	.60	.60	.62	.66	.63	.63	.63	.58
1921-22	.31	.33	.28	.29	.30	.32	.35	.34	.35	.36	.33	.32	.32
1922-23	.29	.33	.38	.39	.41	.40	.40	.41	.42	.41	.39	.36	.36
1923-24	.35	.37	.40	.39	.40								

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.

TABLE 132.—*Oats, No. 3 white: Price per pound expressed as percentage of price per pound for No. 3 yellow corn, Chicago, 1909–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May.	June.	July.	Average.
	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
1909-10	95	99	119	119	130	131	131	126	129	117	113	116	119
1910-11	96	103	112	114	124	128	121	121	112	110	124	122	116
1911-12	110	118	113	124	135	141	142	136	128	122	124	126	127
1912-13	73	78	89	108	126	126	120	114	111	117	117	113	108
1913-14	99	100	100	97	106	110	110	107	102	100	97	91	102
Av. 1909-1913	95	100	107	112	124	127	125	121	116	113	115	114	114
1914-15	90	106	110	125	134	131	137	138	133	123	116	119	122
1915-16	89	80	97	100	106	114	106	101	101	100	92	89	98
1916-17	91	94	89	98	101	102	98	98	86	77	69	69	89
1917-18	52	50	52	51	76	81	86	96	94	84	83	79	74
1918-19	71	80	86	95	87	80	80	72	76	69	69	71	78
1919-20	66	77	87	87	98	100	103	103	105	94	105	101	94
1920-21	78	83	104	116	114	118	117	119	111	114	103	99	106
Av. 1914-1920	77	81	89	96	102	104	104	104	101	94	91	90	94
1921-22	100	116	121	123	127	124	115	111	115	107	106	98	114
1922-23	82	90	96	96	98	100	96	108	102	96	90	80	94
1923-24	76	79	72	92	98								

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin.

BARLEY.

TABLE 133.—*Barley: Acreage, production, value, exports, etc., United States, 1869–1923.*

Calendar year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago, cash price per bushel, low malting to fancy.[2]				Domestic exports, fiscal year beginning July 1.[3]	Imports, fiscal year beginning July 1.[3]
							December.		Following May.			
							Low.	High.	Low.	High.		
	1,000 acres.	*Bushels of 48 lbs.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels*
1869	1,026	27.9	28,652	70.8	20,298	19.78	74	85	50	62	255,390	6,727,597
1870	1,109	23.7	26,295	79.1	20,792	18.75	68	80	72	95	340,093	4,806,700
1871	1,114	24.0	26,718	75.8	20,264	18.19	55½	64	55	71	86,891	5,565,591
1872	1,397	19.2	26,846	68.6	18,416	13.18	60	70	71	85	482,410	4,244,751
1873	1,387	23.1	32,044	86.7	27,794	20.04	132	158	130	155	320,399	4,891,189
1874	1,581	20.6	32,552	86.0	27,998	17.71	120	129½	115	137	91,118	6,255,063
1875	1,790	20.6	36,900	74.1	27,368	15.29	81	88	62½	72½	317,781	10,285,977
1876	1,767	21.9	38,710	63.0	24,403	13.81	63½	68½	80	85	1,186,129	6,702,965
1877	1,669	21.4	35,638	62.5	22,287	13.35	56½	64	46½	52½	3,921,501	6,764,228
1878	1,790	23.6	42,246	57.9	24,454	13.66	91	100	64	73	715,536	5,720,979
1879	*1,928*	24.4	48,721	59.4	28,939	14.48	86	92	75	80	1,128,923	7,135,258
1880	1,843	24.5	45,105	66.6	30,091	16.33	100	120	95	105	885,246	9,528,616
1881	1,968	20.9	41,161	82.3	33,863	17.21	101	107	100	100	205,930	2,182,722
1882	2,272	21.5	48,954	62.9	30,768	13.54	79	82	80	80	433,005	10,050,287
1883	2,379	21.1	50,136	58.7	29,420	12.37	62	67	65	74	724,953	8,596,122
1884	2,609	23.5	61,206	48.7	29,779	11.41	53	58	65	65	659,130	9,986,507
1885	2,729	21.4	58,360	56.3	32,868	12.04	62	65	58	60	252,183	10,197,115
1886	2,653	22.1	59,128	53.6	31,841	12.00	51	54	57	57	1,305,300	10,355,591
1887	2,902	19.6	56,812	51.9	29,464	10.15	80	80	69	77	550,884	10,831,461
1888	2,906	21.3	63,884	59.0	37,672	12.57					1,440,021	11,368,414
1889	3,221	24.3	78,213	41.6	32,574	10.11	58	58			1,408,317	11,332,545
1890	3,406	21.1	73,017	62.6	45,719	13.42					973,062	5,078,733
1891	3,705	26.1	96,589	51.8	50,051	13.51					2,800,075	3,140,328
1892	3,892	23.6	92,037	46.5	42,790	10.99	65	67	65	65	3,035,267	1,970,129
1893	3,855	21.7	83,700	40.5	33,922	8.80	52	54	55	60	5,219,105	701,061
1894	4,005	19.5	78,051	43.5	33,924	8.47	53½	55½	51	52	1,593,754	2,116,819
1895	4,263	26.9	114,732	32.0	36,678	8.60	33	40	25	36	7,080,331	837,884
1896	4,172	23.8	99,394	30.9	29,814	7.15	22	37	24½	35	20,630,301	1,271,787
1897	4,150	24.9	103,279	35.2	36,346	8.76	25½	42	36	53	11,237,077	124,804
1898	4,247	23.5	99,922	38.9	39,003	9.21	40	50½	36	42	2,267,403	110,475
1899	4,470	26.1	116,552	39.0	45,479	10.17	35	45	36	44	23,661,662	189,767
1900	4,545	21.1	96,041	40.5	38,896	8.56	37	61	37	57	6,293,397	171,004
1901	4,742	25.7	121,784	45.2	55,068	11.61	56	63	64	72	8,714,268	57,406
1902	5,126	29.1	149,389	45.5	67,944	13.25	36	70	48	56	8,429,141	56,462
1903	5,568	26.4	146,864	45.4	66,700	11.98	42	61½	38	59	10,881,627	90,768
1904	5,912	27.4	162,105	41.6	67,427	11.41	38	52	40	50	10,661,655	81,020
1905	6,250	27.2	170,080	39.4	66,959	10.71	37	53	42	55½	17,720,360	18,049
1906	6,730	28.6	192,270	41.6	80,069	11.90	44	56	66	85	8,238,842	38,349
1907	6,941	24.5	170,098	66.3	112,675	16.23	78	102	60	75	4,349,078	193,741
1908	7,394	25.3	184,857	55.2	102,037	13.99	57	64½	66	75	6,580,393	2,644
1909	7,695	24.4	187,973	54.8	102,947	13.37	55	72	50	68	4,311,506	
1910	7,743	22.5	173,832	57.8	100,426	12.97	72	90	75	115	9,309,346	
1911	7,627	21.0	160,240	86.9	139,182	18.25	102	130	68	132	1,585,242	
1912	7,530	29.7	223,824	50.5	112,957	15.00	43	77	45	68	17,536,703	
1913	7,499	23.8	178,189	53.7	95,731	12.77	50	79	51	66	6,644,747	
Av. 1909–1913	7,620	24.3	184,812	59.7	110,249	14.47	64.4	89.6	57.8	89.8	7,805,521	
1914	7,565	25.8	194,953	54.3	105,903	14.00	60	75	74½	82	26,754,522	
1915	7,148	32.0	228,851	51.6	118,172	16.53	62	77	70	83	27,473,160	
1916	7,757	23.5	182,309	88.1	160,646	20.71	95	125	128	165	16,381,077	
1917	8,933	23.7	211,759	113.7	240,758	26.95	125	163	105	176	26,285,378	
1918	9,740	26.3	256,225	91.7	234,942	24.12	88	105	110	130	20,457,781	
1919	6,720	22.0	147,608	120.6	178,080	26.50	125	168	140	190	26,671,284	
1920	7,600	24.9	189,332	71.3	135,083	17.77	50	98	56	75	20,457,198	
Av. 1914–1920	7,923	25.4	201,577	83.2	167,655	21.16	86.4	115.9	97.6	128.7	23,497,200	
1921	7,414	20.9	154,946	41.9	64,934	8.76	48	64	62	75	27,540,570	
1922	7,317	24.9	182,068	52.5	95,560	13.06	66	75	63	72	21,910,495	
1923[4]	7,905	25.1	198,185	54.0	106,955	13.53						

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

[2] Chicago Daily Trade Bulletin. Prices, 1895–1908, for No. 3 grade.

[3] Compiled from reports of Bureau of Foreign and Domestic Commerce.

[4] Preliminary.

TABLE 134.—*Barley: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Maine	4	3	3	104	84	90	89	84	90
New Hampshire	1	1	1	23	28	26	25	27	22
Vermont	9	9	9	225	261	261	180	253	248
New York	158	136	190	3,318	4,108	5,092	2,057	3,040	3,819
Pennsylvania	13	12	12	240	306	269	174	199	194
Maryland	4	4	4	120	128	132	80	96	106
Virginia	9	9	10	207	248	270	149	198	210
Ohio	97	78	74	2,522	1,424	1,998	1,286	926	1,459
Indiana	65	39	39	1,235	546	690	593	296	448
Illinois	173	190	228	4,559	5,605	6,612	2,093	3,251	3,985
Michigan	209	140	150	3,509	3,598	3,600	1,995	2,339	2,304
Wisconsin	473	443	465	10,642	14,220	13,252	5,427	8,105	8,084
Minnesota	935	908	962	18,700	24,002	24,050	6,358	11,309	10,582
Iowa	136	161	161	3,190	4,605	4,572	1,312	2,256	2,377
Missouri	7	5	6	154	115	102	100	83	126
North Dakota	1,096	1,608	1,361	16,988	25,704	23,818	4,927	10,025	9,051
South Dakota	1,120	881	890	19,040	20,203	20,025	5,522	8,510	6,010
Nebraska	199	242	339	4,915	4,356	9,492	1,376	2,047	4,176
Kansas	728	1,074	967	14,560	18,580	21,467	4,222	8,961	10,519
Kentucky	6	6	7	144	168	189	88	143	159
Tennessee	9	14	17	189	315	391	189	252	338
Texas	78	93	108	1,872	1,767	2,592	842	1,149	1,763
Oklahoma	122	129	129	2,684	2,193	2,838	1,208	1,206	1,987
Montana	75	92	97	1,538	2,300	2,474	923	1,150	1,488
Wyoming	9	20	28	261	560	868	170	336	564
Colorado	202	186	221	4,444	3,554	6,409	1,644	2,085	3,461
New Mexico	10	9	11	240	135	209	116	126	167
Arizona	29	25	36	928	825	1,260	742	701	1,197
Utah	16	18	22	512	630	893	246	346	625
Nevada	6	6	6	187	176	152	150	176	126
Idaho	87	85	93	2,784	2,800	3,999	1,308	1,878	2,319
Washington	80	71	85	2,044	1,776	3,884	1,551	1,814	2,330
Oregon	70	80	88	2,240	2,160	3,080	1,120	1,598	2,064
California	1,188	1,120	1,095	20,700	34,134	33,069	16,632	21,033	23,148
United States	7,414	7,317	7,905	154,946	182,068	198,185	64,934	95,560	106,055

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 135.—*Barley: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1923.*

Calendar year	Deficient moisture.	Excessive moisture.	Floods	Frost or freeze.	Hail.	Hot winds.	Storms	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total [1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	8.9	3.6	0.3	1.0	2.1	2.3	0.8	19.0	1.4	0.4	0.5	0.2	22.8
1910	34.0	.2	.1	.9	.9	4.3	.1	40.7	.4	.8	.5	.1	43.1
1911	30.0	1.2	----	.8	.4	5.7	.1	38.1	.9	.9	.3	.2	44.3
1912	8.4	1.8	.1	.9	1.9	1.7	.5	15.9	.9	.5	.5	.3	19.6
1913	24.5	.7	.1	.4	1.0	3.2	.3	31.4	.2	1.2	.2	.2	34.3
1914	8.2	2.3	.2	.6	1.5	4.6	.4	18.4	2.8	.6	.2	.1	22.7
1915	1.3	3.2	.3	.7	1.7	.3	.5	8.0	.9	.2	.2	.1	10.0
1916	8.0	3.4	.3	.7	1.5	5.0	.5	20.2	8.5	.7	.1	.1	30.6
1917	26.6	.8	[2]	1.0	1.1	2.3	.2	32.1	.5	.4	.1	.1	33.6
1918	20.7	.4	.1	.7	1.1	2.3	.3	25.9	.6	1.6	.2	[2]	28.8
1919	18.0	3.4	.5	.2	1.8	3.3	.3	28.2	5.3	4.3	.1	.1	38.5
1920	10.4	2.2	.2	.4	1.1	2.0	.2	16.7	3.0	1.3	.2	.0	21.7
1921	20.2	1.4	.1	1.3	1.2	6.6	.1	31.4	2.9	1.3	.1	-------	35.0
1922	13.5	1.3	.1	.3	1.6	1.6	.2	19.9	1.3	1.4	.1	.1	22.2

Division of Crop and Livestock Estimates.

[1] Includes all other causes.

[2] Less than 0.05 per cent.

TABLE 136.—*Barley: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	28.0	28.5	31.0	28.0	26.2	28.0	28.3	30.0	26.5	26.0	21.0	25.0	28.0	26.0	26.1	26.0	28.0	30.0
New Hampshire	24.0	25.0	26.0	24.0	28.0	28.0	26.2	32.0	30.0	28.0	25.0	32.0	24.8	26.0	28.3	23.0	28.0	20.5
Vermont	33.0	30.0	31.0	30.5	35.0	32.0	31.7	34.5	35.0	27.5	29.0	31.0	25.0	28.0	30.0	25.0	29.0	29.0
New York	26.0	24.8	28.3	25.0	26.0	26.7	26.2	28.0	32.0	23.3	28.0	31.5	22.0	29.0	27.7	21.0	26.0	26.8
Pennsylvania	26.0	21.8	26.5	25.0	27.5	26.0	25.4	28.0	29.5	25.0	26.0	28.0	24.5	24.0	26.7	21.5	25.5	22.4
Maryland	30.0	32.0	31.0	23.0	27.0	29.0	28.4	33.0	34.0	32.0	25.0	31.0	33.0	27.5	30.8	30.0	32.0	33.0
Virginia	28.0	28.5	29.3	23.0	25.0	26.0	26.4	26.0	29.0	27.5	30.0	27.0	25.0	27.0	27.4	23.0	27.5	27.0
Ohio	27.5	25.9	28.5	27.2	31.0	24.0	27.3	25.0	31.0	27.8	33.0	31.5	23.0	27.7	28.4	26.0	19.5	27.0
Indiana	24.0	23.5	27.0	26.5	29.5	25.0	26.3	25.0	28.0	27.0	30.5	37.0	25.0	27.0	28.5	19.0	17.0	23.0
Illinois	28.5	28.0	30.2	28.0	31.5	26.0	28.7	29.5	34.0	32.0	37.5	36.0	27.0	30.4	32.3	26.3	29.5	29.0
Michigan	25.5	24.7	26.0	24.0	26.0	24.8	25.1	26.0	29.5	24.5	24.4	30.0	17.0	26.0	25.3	17.5	25.7	24.0
Wisconsin	30.0	28.0	25.9	25.5	29.4	25.0	26.8	27.3	35.5	30.0	32.0	35.7	26.5	31.7	31.2	22.5	32.1	28.5
Minnesota	25.0	23.6	21.0	19.0	28.2	24.0	23.2	23.0	30.5	19.0	27.0	31.0	20.0	25.0	25.1	20.0	20.5	25.0
Iowa	27.0	22.0	29.5	21.9	31.0	25.0	25.9	26.0	31.0	29.5	35.0	31.5	25.5	27.5	29.4	23.5	28.6	28.4
Missouri	23.0	25.0	27.0	20.0	24.8	22.0	23.8	24.0	25.0	20.0	25.0	25.0	30.0	28.0	25.3	22.0	23.0	27.0
North Dakota	19.5	21.0	5.5	19.5	29.9	20.0	19.2	19.5	32.0	15.5	12.5	21.5	11.5	18.0	18.6	15.5	25.5	17.5
South Dakota	26.5	19.5	18.2	5.4	26.0	17.5	17.3	23.0	32.0	22.7	27.0	29.5	22.0	25.0	25.9	17.0	23.0	22.5
Nebraska	23.5	22.0	18.5	11.0	22.0	16.0	17.9	23.5	31.0	28.0	26.5	16.5	25.7	29.0	25.7	24.7	18.0	28.0
Kansas	16.0	18.0	18.0	6.5	23.5	8.1	14.8	24.5	31.0	16.0	8.0	10.0	27.0	25.4	20.3	20.0	17.3	22.2
Kentucky	25.0	24.0	24.0	28.7	26.0	26.6	25.9	28.5	30.0	26.0	28.0	28.0	25.0	28.0	27.6	24.0	28.0	27.0
Tennessee	25.0	24.0	23.0	28.0	26.0	25.0	25.2	27.0	24.0	23.7	15.0	23.0	20.0	23.0	22.2	21.0	22.5	23.0
Texas	24.0	19.4	30.0	18.0	29.3	24.0	24.1	25.0	28.0	17.0	20.0	17.0	35.0	23.0	23.6	24.0	19.0	24.0
Oklahoma	23.0	23.0	30.0	10.0	20.0	9.0	18.4	25.0	26.5	12.5	18.0	17.0	30.0	24.0	21.9	22.0	17.0	22.0
Montana	35.0	38.0	28.0	34.5	36.5	31.0	33.6	30.5	34.0	28.0	15.0	22.0	5.6	18.0	21.9	20.5	25.0	25.5
Wyoming	35.0	31.0	30.0	34.0	34.0	30.5	31.9	33.0	36.0	33.0	36.0	37.0	15.0	36.0	32.3	29.0	28.0	31.0
Colorado	33.0	36.0	32.0	29.0	39.0	32.5	33.7	38.5	36.0	32.0	33.0	18.0	19.0	24.5	28.7	22.0	19.0	29.0
New Mexico	42.0	40.0	25.0	33.0	35.0	24.0	31.4	34.0	33.0	28.0	28.0	23.0	28.3	23.6	28.3	24.0	15.0	19.0
Arizona	38.0	40.0	36.0	36.5	40.0	39.0	38.3	36.0	37.0	35.0	35.0	34.0	35.0	34.0	35.1	32.0	33.0	35.0
Utah	45.0	40.0	36.0	43.0	45.0	38.5	40.5	45.0	42.5	36.0	37.0	35.0	22.9	31.2	35.7	32.0	35.0	40.0
Nevada	30.0	38.0	40.0	40.0	41.0	41.0	40.0	47.0	48.0	41.0	35.0	34.0	26.5	30.0	37.4	31.1	29.4	25.4
Idaho	41.0	40.0	33.0	42.0	43.5	42.0	40.1	38.0	40.5	39.0	29.0	28.0	26.0	35.0	33.6	32.4	34.0	43.0
Washington	30.5	39.5	29.0	37.0	43.0	40.5	37.8	39.0	41.5	41.3	29.0	15.2	30.0	35.3	33.0	36.8	24.0	45.7
Oregon	29.0	31.5	31.5	34.0	36.0	35.0	33.6	30.0	36.0	38.5	29.0	25.0	23.1	32.2	30.5	32.0	27.0	35.0
California	23.5	26.5	31.0	28.0	30.0	26.0	28.3	30.0	29.0	28.0	29.0	26.0	27.0	23.0	27.4	25.0	30.5	30.2
United States	25.3	24.4	22.5	21.0	29.7	23.8	24.3	25.8	32.0	23.5	23.7	26.3	22.0	24.9	25.5	20.9	24.9	25.1

Division of Crop and Livestock Estimates.

TABLE 137.—*Barley: Condition of crop, 1st of month, and yield per acre, United States, 1866–1923.*

Calendar year.	June.	July.	Aug.	Sept.[1]	Yield per acre.	Calendar year.	June.	July.	Aug.	Sept.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct*	*P. ct.*	*Bush.*
1866	100.0	100.5			22.9	1898	78.8	85.7	79.3	79.2	23.5
1867	98.3	99.6	104.0	105.5	22.7	1899	91.4	92.0	93.6	86.7	26.1
1868	103.1	105.8	98.5	95.2	24.4	1900	86.2	76.3	71.6	70.7	21.1
1869	101.0	100.7	102.2	103.6	27.9	1901	91.0	91.3	86.9	83.8	25.7
1870	91.4	90.0	92.2	94.6	23.7	1902	93.6	93.7	90.2	89.7	29.1
1871	99.3	96.4	92.6	92.7	24.0	1903	91.5	86.8	83.4	82.1	26.4
1872	97.7	98.7	97.7	96.9	19.2	1904	90.5	88.5	88.1	87.4	27.4
1873	93.4	88.1	90.3	90.4	23.1	1905	93.7	91.5	89.5	87.8	27.2
1874	99.2	98.9	96.7	92.0	20.6	1906	93.5	92.5	90.3	89.4	28.6
1875	85.7	94.5	87.9	85.0	20.6	1907	84.9	84.4	84.5	78.5	24.5
1876	100.3	98.2	92.3	90.0	21.9	1908	89.7	86.2	83.1	81.2	25.3
1877	100.0	95.1	94.4	98.0	21.4						
1878	102.0	101.0	94.1	95.0	23.6	1909	90.6	90.2	85.4	80.5	24.4
1879	91.0	91.7	95.5	95.5	24.4	1910	89.6	73.7	70.0	69.8	22.5
1880	99.0	99.0	97.7	96.9	24.5	1911	90.2	72.1	66.2	65.5	21.0
1881	94.0	96.9	92.7	94.3	20.9	1912	91.1	88.3	89.1	88.9	29.7
1882	96.0	95.0	95.0	95.0	21.5	1913	87.1	76.6	74.9	73.4	23.8
1883	97.0	97.0	95.0	100.0	21.1						
1884	98.0	98.0	98.0	97.0	23.5	Av. 1909–1913	89.7	80.2	77.1	75.6	24.3
1885	89.7	92.0	92.0	88.0	21.4						
1886	100.0	89.7	90.9	92.7	22.4	1914	95.5	92.6	85.3	82.4	25.8
1887	87.0	82.8	86.2	83.0	19.6	1915	94.6	94.1	93.8	94.2	32.0
1888	88.8	91.0	89.4	86.9	21.3	1916	86.3	87.9	80.0	74.6	23.5
1889	95.6	91.9	90.6	88.9	24.3	1917	89.3	85.4	77.9	76.3	23.7
1890	86.4	88.3	82.8	78.6	21.4	1918	90.5	84.7	82.0	81.5	26.3
1891	90.3	90.9	93.8	94.3	26.1	1919	91.7	87.4	73.6	69.2	22.0
1892	92.1	92.0	91.1	87.4	23.6	1920	87.6	87.6	84.9	82.5	24.9
1893	88.3	88.8	84.6	83.8	21.7						
1894	82.2	76.8	69.8	71.5	19.5	Av. 1914–20	90.8	88.5	82.5	80.1	25.5
1895	90.3	91.9	87.2	87.6	26.9						
1896	98.0	88.1	82.9	83.1	23.8	1921	87.1	81.4	71.4	68.4	20.9
1897	87.4	88.5	87.5	86.4	24.9	1922	90.1	82.6	82.0	81.2	24.9
						1923	89.0	86.1	82.6	79.5	25.1

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 138.—*Barley: Area and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Area.					Yield per acre.				
	Average, 1909–1913.	1920	1921	1922	1923, preliminary.	Average, 1909–1913.	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
Canada	1,574	2,552	2,796	2,600	2,784	28.8	24.8	21.4	27.6	28.9
United States	7,620	7,600	7,414	7,317	7,905	24.3	24.9	20.9	24.9	25.1
Mexico	[1] 1,436			697		[1] 4.9				
Total comparable with 1909–1913	10,630			10,614						
Total comparable with 1923	9,194	10,152	10,210	9,917	10,689					
EUROPE.										
United Kingdom:										
England and Wales	1,488	1,637	1,436	1,364	1,327	38.1	32.2	30.8	31.0	31.4
Scotland	191	204	171	157	159	37.6	39.7	36.0	39.1	39.0
Ireland	166	207	175	170		45.2	36.4	34.0	42.2	
Norway	89	156	156	132	132	32.2	34.5	27.4	34.0	28.8
Sweden	448	398	400	427	410	33.6	28.1	30.6	32.4	28.6
Denmark	[2] [3] 597	626	628	667	689	[2] 41.8	39.5	43.9	45.6	
Netherlands	69	56	61	61	59	47.4	47.5	54.1	51.5	49.5
Belgium	85	90	96	80	93	51.1	48.3	53.3	43.0	45.4
Luxemburg	3	5	5	9	5	27.3	20.8	14.8	19.7	27.6
France	[3] 1,865	1,641	1,679	1,712	1,745	25.8	23.4	22.8	23.9	26.9
Spain	3,510	4,319	4,335	4,082	4,539	21.3	20.9	20.6	19.0	24.6
Portugal		147	146	191	191		12.2	11.0	16.4	
Italy	[2] 613	[2] 494	[2] 540	576	568	16.5	11.9	20.6	14.3	18.4
Switzerland	13	18	16	16	16	33.9	34.5	34.6	30.7	32.8
Germany (summer)	[2] 3,976	2,949	2,808	2,846	2,947	38.6	27.9	31.7	25.7	33.6
Austria	[2] 2,712	240	266	313	334	28.0	18.4	20.6	17.9	22.5
Czechoslovakia		1,716	1,613	1,420	1,690		21.7	29.4	32.6	32.5
Hungary	[2] 2,917	1,266	1,184	1,145	1,176	24.8	17.8	18.1	19.4	21.0
Yugoslavia	[1] [4] 268	926	910	941	488	[1] 18.6	14.3	14.7	11.8	29.3
Greece	[2] 195	386			400	[2] 18.9	16.1			17.8
Bulgaria	[3] 600	554	524	534	531	19.9	17.1	16.2	22.4	23.1
Rumania	[5] 2,979	3,460	3,878	4,269	4,841	17.9	19.5	11.4	22.0	14.2
Poland	[6] (1,709)	1,944	2,451	2,825	2,953	19.5	19.8	22.9	21.1	27.7
Lithuania	[6] (435)	398	414	417	432	16.9	13.6	16.1	25.7	18.3
Latvia	[6] (427)	306	361	391	437	17.6	10.0	18.0	17.3	15.9
Esthonia	[6] (302)	273	275	331	331	19.3	14.9	17.1	20.2	14.6
Finland	278	287	272	297	277	17.8	11.5	19.7	15.3	13.7
Russia, including Ukraine and Northern Caucasia	[6](23,436)			7,508		16.4			14.9	
Total comparable with 1909–1913	49,461									
Total comparable with 1923		24,496			26,776					
AFRICA.										
Morocco		2,341	2,472	2,548	2,806		14.3	15.1	10.7	11.4
Algeria	3,395	2,725	2,521	2,868	2,826	13.5	4.5	17.5	6.9	16.5
Tunis	1,228	927	1,228	603	1,206	6.4	2.8	9.4	3.5	9.5
Egypt	[7] 398	340	394	375	400	[7] 29.9	26.3	26.0	30.1	30.0
Total comparable with 1909–1913	5,021	3,992	4,143	3,846	4,432					
Total comparable with 1923		6,333	6,615	6,394	7,298					

[1] Three-year average. [2] One year only. [3] Old boundaries. [4] Former Kingdom of Serbia.
[5] Includes Bessarabia.
[6] Preliminary estimate of former Russian territory within 1923 boundaries.
[7] Two-year average.

TABLE 138.—*Barley: Area and yield per acre in undermentioned countries*—Continued.

NORTHERN HEMISPHERE—Continued.

Country	Area.					Yield per acre.				
	Average, 1909–1913.	1920	1921	1922	1923, preliminary.	Average, 1909–1913.	1920	1921	1922	1923, preliminary.
ASIA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
Cyprus		110	130	118			18.5	14.7	16.7	
India	[7] 7,842	7,419	6,203	7,356		[7] 5.5	20.2	18.9	19.8	
Russia	2,912			454		12.6			9.8	
Japanese Empire:										
Japan	3,042	2,987	2,929	2,746	2,515	29.4	28.4	28.1	31.7	32.4
Chosen	1,662	2,150	1,979			20.7	18.4	16.7		
Formosa	5	5	4			12.6	11.2	9.2		
Kwantung	[1] 1	1	2			[1] 8.0	12.0	13.0		
Total comparable with 1909–1913	15,464									
Total comparable with 1923	3,042	2,987	2,929	2,746	2,515					
Total Northern Hemisphere, comparable with 1909–1913	80,576									
Total Northern Hemisphere, comparable with 1923		43,068			47,278					

SOUTHERN HEMISPHERE.

Country.	Average 1909–1913.	1920–21	1921–22	1932–23	1923–24	Average 1909–1913	1920–21	1921–22	1922–23	1923–24
Chile	111	143	128	147	136	36.8	35.2	35.6	36.6	
Uruguay	[8] 7	5	3	3	10	[7] 11.1	16.4	14.0	9.3	
Argentina	230	617	620	600	637	[8] 17.6	6.0	9.6	12.8	14.4
Union of South Africa	[1] 109	97	87			[1] 11.7	10.8	14.7		
Australia	154	335	298			19.6	22.3	21.3		
New Zealand	35	47	33	17		36.1	35.2	36.4	36.6	
Total comparable with 1909–1913	646	1,244	1,169							
Total comparable with 1923	348	765	751	750	783					
World total comparable with 1909–1913	81,222									
World total comparable with 1923		44,733			48,061					

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Three year average.
[7] Two-year average.
[8] One year only.
[8] Four-year average.

TABLE 139.—*Barley: Production in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	45,275	55,058	77,287	56,389	63,311	59,709	71,865	80,357
United States	184,812	211,759	256,225	147,608	189,332	154,946	182,068	198,185
Mexico	7,021	.....	.....	.....	.....	.....	3,887	.....
Total comparable with 1909–1913	237,108	.....	.....	.....	.....	.....	257,820	.....
Total comparable with 1923	230,087	266,817	333,512	203,997	252,643	214,655	253,933	278,542
EUROPE.								
United Kingdom:								
England and Wales	56,658	46,125	50,667	45,617	52,792	44,242	42,233	41,717
Scotland	7,173	5,875	5,642	6,367.	8,108	6,158	6,133	[1] 6,208
Ireland	7,510	7,873	8,359	8,125	7,527	5,952	7,170	.....
Norway	2,867	4,021	5,622	5,274	5,382	4,279	4,483	3,800
Sweden	15,035	11,369	11,552	12,718	11,175	12,236	13,830	11,712
Denmark	[2] 24,980	[2] 17,881	[2] 21,465	[2] 24,523	24,707	27,548	30,433	.....
Netherlands	3,270	2,158	2,615	2,360	2,660	3,302	3,143	2,922
Belgium	4,342	.....	.....	3,449	4,350	5,117	3,438	4,223
Luxemburg	82	132	142	102	104	74	177	138
France	[3] 48,183	[3] 39,377	[3] 29,237	[3] 26,285	38,382	38,318	40,908	46,993
Spain	74,089	77,957	90,496	81,808	90,462	89,320	77,533	111,861
Portugal	.....	1,481	1,490	1,422	1,797	1,600	3,141	.....
Italy	[2] 10,104	[2] 7,422	[2] 9,686	[2] 8,327	[2] 5,870	[4] 11,119	8,253	10,477
Switzerland	441	693	954	631	621	553	491	524
Germany (summer)	[2] 153,529	[5] 89,886	[5] 93,504	[5] 87,741	82,344	89,056	73,013	99,162
Austria	[2] 76,033	3,291	4,233	3,822	4,424	5,481	5,599	7,501
Czechoslovakia	.....	.....	.....	.....	37,238	47,471	46,352	55,176
Hungary	[2] 72,250	.....	.....	.....	22,585	21,408	22,169	24,649
Yugoslavia	[6,7] 4,997	.....	.....	.....	13,199	13,373	11,069	14,327
Greece	[8] 3,092	5,796	7,258	5,434	6,205	6,430	.....	7,101
Bulgaria	[2] 11,944	10,073	6,803	9,270	9,451	8,489	11,941	12,231
Rumania	[9] 53,445	.....	4,993	31,640	67,605	44,254	93,780	68,951
Poland	[10] (35,031)	.....	.....	.....	38,567	56,204	59,559	81,938
Lithuania	[10] (7,330)	.....	.....	6,200	5,418	6,675	10,725	7,918
Latvia	[10] (7,522)	.....	.....	.....	3,057	6,496	6,770	6,916
Esthonia	[10] (5,838)	.....	.....	4,473	4,081	4,690	6,670	4,831
Finland	4,947	4,504	4,588	4,677	3,302	5,345	4,557	3,791
Russia, including Ukraine and Northern Caucasia	[10] (383,448)	.....	.....	.....	.....	.....	111,610	.....
Total comparable with 1909–1913	1,075,340	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	659,402	.....	.....	.....	517,382	530,090	.....	635,167
AFRICA.								
Morocco	.....	31,649	35,217	26,394	33,497	37,264	27,230	32,736
Algeria	45,974	31,461	58,422	28,073	12,378	44,092	19,805	46,527
Tunis	7,826	7,808	13,090	5,511	2,618	11,482	1,837	11,482
Egypt	11,906	13,598	9,871	10,087	8,956	10,235	11,306	11,989
Total comparable with 1909–1913	65,706	52,867	81,383	43,671	23,952	65,809	32,948	69,998
Total comparable with 1923	.....	84,516	116,600	70,065	57,449	103,073	60,178	102,734

[1] Commercial estimate.
[2] Old boundaries.
[3] Includes production in Alsace-Lorraine.
[4] Includes 758,000 bushels produced in Venezia Tridentina and Venezia Giulia.
[5] Excludes production in Alsace-Lorraine.
[6] Three-year average.
[7] Former Kingdom of Serbia
[8] One year only.
[9] Includes Bessarabia.
[10] Preliminary estimate of former Russian territory within 1923 boundaries.

TABLE 139.—*Barley: Production in undermentioned countries*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
ASIA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Cyprus	2,183	2,597	3,402	2,301	2,031	1,915	1,976	.....
India	[11] 43,307	155,680	155,587	129,827	149,567	117,087	145,973	.....
Russia (Asiatic)	36,795	.....	.....	.....	.....	.....	4,459	.....
Japanese Empire:								
Japan	89,531	88,896	87,769	89,356	84,909	82,323	87,139	81,371
Chosen	34,455	37,475	41,696	39,007	39,494	33,054	32,889	30,721
Formosa	63	50	56	52	56	37	.....	.....
Kwangtung	8	5	16	14	12	26	.....	.....
Total comparable with 1909–1913	206,342	.....	.....	.....	.....	.....	.....	.....
Total comparable with 1923	123,986	126,371	129,465	128,423	124,403	115,377	120,028	112,092
Total Northern Hemisphere, comparable with 1909–1913	1,584,496	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere, comparable with 1923	.....	.....	.....	.....	951,877	963,195	.....	1,128,535

SOUTHERN HEMISPHERE.

Country.	Average, 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
Chile	4,000	3,304	3,664	3,091	5,035	4,556	5,380	.....
Uruguay	[13] 78	108	72	76	82	42	28	.....
Argentina	[13] 4,395	.....	.....	2,555	3,682	5,982	7,656	9,186
Union of South Africa [12]	[8] 1,274	2,025	1,029	720	1,046	1,282	.....	.....
Australia	3,021	4,103	4,962	4,467	7,454	6,339	.....	.....
New Zealand	1,264	592	741	850	1,653	1,200	623	.....
Total comparable with 1909–1913	14,122	.....	.....	12,359	18,952	19,401	.....	.....
Total comparable with 1923	4,395	.....	.....	2,555	3,682	5,982	7,656	9,186
World total, comparable with 1909–1913	1,598,618	.....	.....	.....	.....	.....	.....	.....
World total, comparable with 1923	.....	.....	.....	.....	955,559	969,177	.....	1,137,721

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Parentheses denote interpolated figures.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[8] Three-year average.
[8] One year only.
[11] Two-year average.
[12] Four-year average.
[13] Excludes native locations which produced 38,550 bushels in 1917–18 and 29,057 in 1920–21

TABLE 140.—*Barley: World production, 1894–1923.*

Year.	Production in countries reporting all years, 1894–1923.	Production as reported.	Estimated world totals (preliminary).	Three selected countries.		
				Russian Empire.[1]	Germany.	Japan.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1894	607,282	1,031,839	1,209,725	277,464	130,858	81,133
1895	616,057	970,564	1,125,471	226,134	128,325	79,646
1896	564,927	961,353	1,127,085	253,630	125,254	70,545
1897	551,097	909,157	1,045,892	238,651	117,783	72,662
1898	635,270	1,090,672	1,327,512	306,922	129,939	83,338
1899	628,739	973,216	1,143,901	226,909	137,047	77,309
1900	620,639	984,210	1,168,630	236,981	137,888	82,420
1901	679,376	1,046,723	1,222,624	239,917	152,535	83,352
1902	702,761	1,182,478	1,365,344	338,251	142,391	74,078
1903	666,922	1,195,298	1,356,104	357,471	152,652	59,737
1904	657,150	1,140,319	1,313,769	346,255	135,408	80,794
1905	651,638	1,158,453	1,313,903	346,966	134,203	77,473
1906	758,275	1,262,809	1,456,706	330,962	142,900	83,967
1907	725,374	1,261,256	1,438,416	377,031	160,649	90,480
1908	709,335	1,293,613	1,434,561	402,258	140,538	87,138
1909	778,074	1,522,309	1,648,697	501,869	160,551	87,185
1910	707,237	1,396,972	1,518,917	487,919	133,330	81,953
1911	728,017	1,449,535	1,541,983	436,569	145,133	86,480
1912	772,145	1,575,130	1,619,575	496,352	159,924	90,559
1913	783,690	1,726,095	1,778,842	600,232	168,709	101,477
1914	718,089	1,514,983	1,557,233	[2] 432,615	144,125	85,774
1915	691,862	1,563,397	1,585,154	[2] 429,161	114,077	94,959
1916	669,754	1,048,089	1,514,614	----------	128,450	89,335
1917	612,658	982,142	1,434,642	----------	[2] 89,886	88,896
1918	694,950	1,128,067	1,488,567	----------	[2] 93,504	87,769
1919	536,432	927,303	1,136,303	----------	[2] 87,741	89,356
1920	580,268	1,156,526	1,244,526	----------	[2] 82,344	84,909
1921	574,819	1,136,761	1,224,261	----------	[2] 89,056	82,323
1922	555,961	1,305,414	1,327,674	----------	[2] 73,013	87,139
1923	657,950	1,137,721	1,460,721	----------	[2] 99,162	81,371

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Includes all Russian territory reporting for years named. Further information of the territory included is given in notes on Table 121.
[2] Excludes Poland.
[3] New boundaries.

TABLE 141.—*Barley: Farm stocks, shipments, and quality, United States, 1910–1923.*

Year.	Old stocks on farms Aug. 1.[1]	Crop.			Total supplies.	Stocks on farms Mar. 1 following.[1]	Shipped out of county where grown.[1]
		Quantity.	Weight per bushel.[2]	Quality.[3]			
	1,000 bushels.	*1,000 bushels.*	*Pounds.*	*Per cent.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1910–11	8,075	173,832	46.9	88.1	181,907	33,498	86,955
1911–12	5,763	160,240	46.0	84.9	166,003	24,754	91,620
1912–13	2,591	223,824	46.8	86.2	226,415	62,301	120,143
1913–14	11,252	178,189	46.5	86.4	189,441	44,126	86,262
1914–15	7,609	194,953	46.2	87.5	202,562	42,889	87,834
1915–16	6,336	228,851	47.4	90.5	235,187	58,301	98,965
1916–17	10,982	182,309	45.2	84.4	193,291	33,244	79,257
1917–18	3,775	211,759	46.6	90.9	215,534	44,419	84,056
1918–19	4,510	256,225	46.9	89.8	260,735	81,746	99,987
1919–20	11,897	147,608	45.2	84.8	159,505	33,820	50,471
1920–21	4,122	189,332	46.0	88.2	193,454	65,229	68,603
1921–22	13,487	154,946	44.4	82.5	168,433	42,294	55,738
1922–23	7,497	182,068	46.2	88.5	189,565	42,469	66,500
1923–24[4]	6,805	198,185	45.3	86.6	204,990	44,844	68,589

Division of Crop and Livestock Estimates.

[1] Based on percentage of entire crop as reported by crop reporters.
[2] Average weight per measured bushel as reported by crop reporters.
[3] Percent of a "high medium grade" as reported by crop reporters.
[4] Preliminary.

TABLE 142.—*Barley: Monthly marketings by farmers, United States, 1917–1922.*

Year beginning July 1.	Percentage of year's receipts as reported by about 3,500 mills and elevators.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	2.2	15.0	23.4	16.5	8.5	8.6	6.5	7.5	6.1	2.9	1.8	1.0	100.0
1918–19	2.4	9.7	8.4	4.4	7.8	3.3	1.3	.7	2.9	27.5	30.7	.9	100.0
1919–20	18.5	19.2	14.3	9.9	6.4	7.5	5.4	3.1	3.7	3.4	3.0	5.6	100.0
1920–21	7.0	16.5	15.0	9.9	9.9	7.2	6.7	5.5	6.5	4.2	5.7	5.9	100.0
1921–22	35.0	14.0	10.5	7.8	4.4	4.2	3.9	4.3	4.2	3.0	4.4	4.3	100.0
1922–23	17.4	22.9	14.6	10.8	5.2	6.0	4.8	3.2	3.5	1.9	2.7	7.0	100.0

Division of Crop and Livestock Estimates.

TABLE 143.—*Barley: Receipts at markets named, 1909–1922.*

Year beginning Aug. 1.	Minneapolis	Duluth.	Chicago.	Milwaukee.	Omaha.	Fort William and Port Arthur.[1]
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1909–10	22,828	12,177	26,658	15,143	----------	3,301
1910–11	1,518	7,157	20,740	12,915	----------	1,537
1911–12	19,134	6,019	20,929	12,797	----------	3,483
1912–13	35,682	14,504	30,083	19,824	----------	9,859
1913–14	29,796	10,895	26,201	17,499	----------	10,667
Average, 1909–1913	21,792	10,150	24,922	15,636	----------	5,769
1914–15	29,465	11,122	25,073	7,096	----------	2,884
1915–16	45,143	15,396	32,085	19,850	----------	10,356
1916–17	26,301	8,633	28,075	19,619	1,236	7,688
1917–18	35,423	7,470	21,473	14,675	2,089	7,470
1918–19	43,172	8,427	26,871	18,458	3,901	7,741
1919–20	13,194	2,322	13,694	10,208	831	8,194
1920–21	17,774	4,043	10,192	9,813	1,325	12,326
Average, 1914–1920	30,067	8,202	22,495	14,246	[2] 1,894	8,094
1921–22	11,945	5,154	7,597	9,341	1,075	11,597
1922–23	14,259	3,835	10,073	9,446	801	15,756
1922–23.						
August	1,203	601	1,175	812	53	----------
September	1,397	1,164	1,260	890	53	2,483
October	1,581	722	1,017	1,123	88	4,098
November	1,424	439	949	1,389	138	2,063
December	1,724	42	1,089	894	69	1,443
January	1,702	39	998	869	104	1,150
February	845	120	685	659	43	337
March	1,196	81	987	781	77	609
April	832	255	651	488	102	754
May	625	69	502	502	13	946
June	884	191	359	528	34	589
July	846	112	401	511	27	835
August	----------	----------	----------	----------	----------	419

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian Statistics.

[1] Crop year begins in September.
[2] Five-year average.

TABLE 144.—*Barley: Net imports and net exports of principal countries, 1907–1923.*

Year ending July 31.	Imports.					Exports.				
	Belgium.	France.	Germany.	Netherlands.	United Kingdom.	Rumania.	Russia.	Canada.	United States.[1]	Algeria.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1906–7	13,418	8,415	96,726	7,509	46,063	(2)	95,704	1,656	8,201	5,335
1907–8	12,808	2,011	92,675	6,812	40,237	(2)	104,674	2,051	4,149	3,704
1908–9	13,582	2,597	103,736	9,215	50,897	(2)	152,723	2,800	6,578	2,304
1909–10	13,847	3,983	124,928	11,120	47,613	(2)	172,096	1,915	4,312	4,888
1910–11	15,353	8,823	161,627	15,739	44,615	(2)	199,423	1,040	9,390	7,289
1911–12	17,380	6,945	152,771	8,319	48,861	19,435	139,910	2,641	1,585	7,552
1912–13	14,306	2,779	132,333	8,474	53,654	11,847	154,519	9,430	17,537	476
1913–14	15,498	7,771	173,713	13,321	46,917	18,941	199,632	12,294	6,645	6,138
1914–15	(2)	1,412	(2)	4,172	31,737	4,680	215	2,808	26,755	1,502
1915–16	(2)	8,587	(2)	5,474	40,396	24,344	878	8,851	27,473	5,268
1916–17	(2)	[3] 9,920	(2)	[4] 4,989	[5] 26,686	(2)	(2)	[6] 8,675	16,381	[7] 5,268
1917–18	(2)	[3] 8,745	(2)	[4] 46	[5] 20,770	(2)	(2)	[6] 6,607	26,285	[7] 1,770
1918–19	(2)	[3] 12,248	(2)	[4] 2,327	[5] 9,264	(2)	(2)	[6] 5,398	20,458	[7] 13,549
1919–20	2,862	10,365	(2)	1,965	37,509	98	(2)	11,891	26,571	6,395
1920–21	5,452	[3] 1,423	8,935	4,551	32,368	28,918	(2)	10,404	20,457	[8] 4,712
1921–22	10,398	4,118	11,846	6,261	33,111	15,422	(2)	12,861	22,400	5,267
1922–23	9,799	446	15,789	6,955	34,571	35,141	(2)	10,902	18,193	[8] 3,919

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1915–16, 1922, and from official sources.

[1] Year ending June 30—Commerce and Navigation of the United States and Monthly Summary of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.
[2] Not available.
[3] Year ending June 30—Documents Statistiques sur le Commerce de la France.
[4] Year ending June 30—Maandcijfers Netherlands.
[5] Year ending June 30—Trade and Navigation of the United Kingdom.
[6] Year ending June 30—Monthly Reports of the Trade of Canada.
[7] Year ending June 30—International Crop Reports and Crop Statistics.
[8] Net exports.
[9] Net imports.

TABLE 145.—*Barley: Farm price per bushel, 1st of month, United States, 1908–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–9	57.1	56.1	55.3	53.7	55.4	56.5	58.3	59.4	61.2	63.8	67.0	67.0	57.0
1909–10	61.2	54.6	53.4	53.3	54.0	57.6	59.3	60.2	59.7	56.5	55.7	53.9	55.7
1910–11	54.7	57.2	56.1	55.3	57.8	59.8	64.1	63.0	69.1	74.0	73.8	70.1	59.5
1911–12	69.3	77.0	81.7	84.9	86.9	86.4	91.2	91.0	92.3	96.2	91.1	81.9	83.6
1912–13	66.8	53.5	54.8	53.8	50.5	49.9	51.4	49.0	48.5	48.3	52.7	53.7	53.1
1913–14	50.8	55.2	56.8	54.7	53.7	52.2	52.4	51.1	51.7	49.3	49.1	47.5	53.6
Av. 1909–1913	60.6	59.5	60.6	60.4	60.6	61.2	63.7	62.9	64.3	64.9	64.5	61.4	61.1
1914–15	45.1	52.5	51.8	51.7	54.3	54.3	62.9	67.7	64.7	63.8	62.0	55.8	55.0
1915–16	56.7	51.9	46.8	50.1	51.6	54.9	61.7	59.6	57.2	59.6	59.6	59.3	53.2
1916–17	59.3	72.9	76.5	83.2	88.1	87.1	92.7	96.9	102.3	120.1	119.3	106.6	85.2
1917–18	114.5	110.0	113.9	111.3	113.7	126.5	131.9	161.1	170.2	158.5	135.4	118.4	122.6
1918–19	110.0	100.9	95.5	94.9	91.7	91.3	86.8	85.4	92.7	103.9	109.2	108.4	95.9
1919–20	118.7	115.6	115.3	117.1	120.6	130.2	137.1	129.3	140.0	146.4	148.3	142.0	123.8
1920–21	121.0	105.0	91.2	81.7	71.3	64.4	57.2	56.8	54.4	49.2	51.6	50.6	79.1
Av. 1914–1920	89.3	87.0	84.4	84.3	84.5	87.0	90.0	93.8	97.4	100.2	97.9	91.6	87.8
1921–22	49.4	47.0	45.4	41.7	41.9	43.7	44.3	49.6	52.8	56.3	57.7	52.2	46.1
1922–23	49.7	45.7	46.7	51.6	52.5	58.6	55.0	57.4	58.6	60.7	60.9	55.7	52.1
1923–24	53.7	50.7	53.1	56.3	54.0	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 146.—*Barley: International trade, 1910–1923.*

Country.	Year ending July 31.							
	Average 1910–1914.		1920–21		1921–22		1922–23, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	213	5,482	5,567	856	699	5,965	[1] 4,014	533
Argentina [2]	3	764	26	2,354	----	2,230	----	1,024
Australia [3]	159	51	(4)	3,343	7	2,016	----	2,319
British India	[5] 23	10,640	(4)	524	15	184	[1] 8	1,579
Bulgaria	----	1,876	(4)	411	(4)	819	----	----
Canada	57	5,522	1	10,405	3	12,864	(2) (4)	[3] 12,474
Chile [2]	88	1,062	3	1,358	3	2,826	----	----
Czechoslovakia	----	----	5	16	52	1,941	[1] 9	5,681
Hungary	229	11,836	----	44	8	188	[1] 12	15
Latvia	----	----	7	----	1	10	[1] 7	[6] 275
Poland	----	----	----	----	271	258	[1] 19	[1] 833
Rumania	[7] 63	[7] 16,804	1	28,919	1	15,424	----	40,106
Russia	124	173,240	----	----	----	----	----	----
Sweden	28	102	317	16	85	75	[3] 28	[3] 782
Tunis	328	3,055	294	483	50	6,524	[1] 1,083	1,098
United States	----	8,294	----	21,552	----	22,812	----	[3] 18,193
Yugoslavia	----	----	----	963	----	440	----	----
PRINCIPAL IMPORTING COUNTRIES.								
Austria	716	8,123	1,028	26	1,452	6	3,179	[1] 81
Belgium	[8] 18,401	[8] 3,180	6,607	1,154	11,355	957	[3] 11,335	[3] 63
Brazil [3]	1	----	5	----	9	----	----	----
Denmark	3,024	2,906	672	753	1,655	2,906	[3] 6,098	[3] 1,190
Egypt	732	[9] 42	1,957	192	33	593	[3] 606	[3] 179
Finland	----	----	42	----	22	1	[3] 67	----
France	6,846	784	833	2,257	4,389	271	[3] 1,431	[3] 735
Germany	149,209	134	8,962	[10] 27	12,037	191	[3] 13,128	[3] 122
Greece	----	----	1,186	4	379	----	[3] 627	----
Italy	810	20	1,973	----	1,603	44	[3] 528	[3] 47
Japan	15	----	12	1	20	----	[1] 10	----
Netherlands	38,039	26,975	4,728	177	6,692	431	[3] 9,067	[3] 404
Norway	4,550	----	847	----	1,500	(4)	[3] 1,363	----
Portugal	[8] 24	[8] 5	----	----	----	----	----	----
Spain	690	113	2,260	695	5,838	52	----	----
Switzerland	1,140	1	908	1	2,229	(4)	[6] 2,746	(1) (4)
Union of South Africa [3]	4	2	152	(4)	(4)	(4)	(4)	[3]
United Kingdom	48,596	----	32,368	----	33,111	----	[3] 38,871	----
Total countries reported	274,112	281,013	70,770	76,531	83,519	80,028	94,236	87,736

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1922, except figures with footnotes (2) and (3) which are compiled from official sources.

[1] Ten months ending May 31.
[2] Calendar years, 1909–1922.
[3] Years ending June 30.
[4] Less than 500 bushels.
[5] Three year average, 1910–1912.
[6] Eleven months.
[7] Three-year average, 1912–1914.
[8] The month of July 1914 is not included in average.
[9] Two-year average, 1913–1914.
[10] Eight months: Aug.–Dec., 1920 and May–July, 1921.

TABLE 147.—*Barley: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Me.	81	77	76	90	77	80	80	81	75	104	130	149	170	138	121	86	100	100	30.00
N. H.	80	80	77	86	84	80	81	82	79	90	175	150	188	146	130	110	98	85	22.52
Vt.	70	77	68	82	80	80	77	75	75	100	140	153	150	120	116	80	97	95	27.55
N. Y.	70	69	70	97	68	69	75	71	75	101	130	126	136	99	105	62	74	75	20.10
Pa.	63	67	63	65	68	71	67	70	75	75	140	120	128	90	100	62	65	72	16.13
Md.	65	64	61	60	68	64	63	66	70	73	130	120	123	110	99	67	75	80	26.40
Va.	69	71	67	70	75	70	71	80	75	85	139	160	130	100	110	72	80	80	21.60
Ohio.	64	61	60	84	55	58	64	59	54	80	118	93	125	82	87	51	65	63	17.01
Ind.	65	63	56	75	60	50	61	67	65	75	104	104	118	87	89	48	58	65	14.95
Ill.	65	52	56	92	53	57	62	61	57	103	121	90	121	82	91	46	58	58	16.82
Mich.	62	61	58	86	65	60	66	65	62	91	119	100	118	87	92	57	65	64	15.36
Wis.	58	56	64	99	55	60	67	62	56	105	124	92	121	84	92	51	57	61	17.38
Minn.	49	47	60	96	41	48	58	53	49	87	111	80	116	62	80	34	47	44	11.00
Iowa.	51	46	56	93	52	55	60	55	49	91	117	85	112	63	82	42	49	52	14.77
Mo.	63	68	60	75	66	60	66	65	63	93	94	115	130	98	94	65	72	78	21.06
N. Dak.	46	43	55	85	35	40	52	45	44	80	100	73	108	56	72	29	39	38	6.65
S. Dak.	47	45	57	88	42	46	56	50	46	83	110	78	115	52	76	29	42	40	9.00
Nebr.	46	43	45	60	42	49	48	47	42	75	98	85	100	50	71	28	47	44	12.32
Kans.	54	53	45	60	40	55	51	47	42	77	115	95	100	45	74	29	45	49	10.88
Ky.	72	76	65	79	75	78	75	77	77	90	115	140	157	115	110	61	85	84	22.68
Tenn.	73	79	80	90	80	70	80	82	75	100	144	152	180	110	120	100	80	100	23.00
Tex.	78	100	90	93	78	81	88	70	68	80	137	130	112	75	96	45	65	68	16.32
Okla.	58	65	54	61	50	80	62	53	50	100	148	124	122	72	96	45	55	70	15.40
Mont.	61	63	62	68	53	48	59	53	48	76	103	100	140	65	84	60	50	48	12.24
Wyo.	65	74	67	75	62	61	68	64	55	87	130	130	175	110	107	65	60	65	20.15
Colo.	65	66	60	69	50	56	60	55	48	82	104	113	120	75	85	37	59	54	15.66
N. Mex.	79	100	80	70	71	72	79	75	70	100	139	110	110	75	97	61	95	80	15.20
Ariz.	85	88	90	87	87	73	85	60	56	108	150	130	140	140	112	80	85	95	33.25
Utah.	54	66	60	66	59	55	61	50	52	76	120	140	141	100	97	48	55	70	28.42
Nev.	77	75	70	81	87	90	81	65	70	95	119	154	150	165	117	80	100	83	21.08
Idaho.	53	59	50	70	51	48	56	50	52	82	105	130	140	75	91	47	65	58	24.94
Wash.	58	64	57	68	53	52	59	52	56	84	115	115	135	100	94	52	74	60	27.42
Oreg.	59	66	62	65	55	55	61	61	62	80	115	136	150	100	101	50	74	67	23.45
Calif.	74	74	55	85	70	68	70	59	62	95	120	115	141	100	99	56	63	70	21.14
U. S.	55.2	54.8	57.8	86.9	50.5	53.7	60.7	54.3	51.6	88.1	113.7	91.7	120.6	71.3	84.5	41.9	52.5	54.0	13.53

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 148.—*Barley, No. 2: Weighted average price per bushel, Minneapolis, 1909–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
1909–10.	$0.45	$0.48	$0.49	$0.52	$0.57	$0.61	$0.60	$0.58	$0.54	$0.54	$0.53	$0.60	$0.54
1910–11.	.61	.63	.63	.66	.70	.77	.74	.81	.88	.75	.77	.87	.74
1911–12.	.85	.94	.95	.98	.91	1.05	1.00	.95	1.01	.99	.76	.80	.92
1912–13.	.46	.49	.50	.47	.45	.49	.48	.46	.46	.50	.52	.48	.48
1913–14.	.58	.61	.56	.53	.50	.52	.50	.48	.47	.48	.47	.45	.51
Av. 1909–1913.	.59	.63	.63	.63	.63	.69	.66	.66	.67	.65	.61	.60	.64
1914–15.	.59	.58	.55	.59	.57	.68	.75	.70	.70	.70	.66	.68	.65
1915–16.	.59	.48	.51	.56	.61	.70	.66	.65	.68	.70	.68	.69	.63
1916–17.	.81	.81	1.03	1.11	1.07	1.17	1.17	1.21	1.36	1.48	1.38	1.49	1.17
1917–18.	1.31	1.33	1.28	1.27	1.49	1.56	1.88	2.12	1.82	1.46	1.23	1.18	1.49
1918–19.	1.02	.95	.91	.94	.92	.90	.87	.93	1.09	1.13	1.12	1.21	1.00
1919–20.	1.33	1.27	1.29	1.33	1.52	1.52	1.37	1.51	1.60	1.74	1.49	1.16	1.43
1920–21.	1.02	.99	.92	.82	.74	.69	.65	.67	.61	.59	.57	.62	.74
Av. 1914–1920.	.95	.92	.93	.95	.99	1.03	1.05	1.11	1.12	1.11	1.02	1.00	1.02
1921–22.	.58	.55	.50	.54	.47	.51	.56	.58	.61	.62	.56	.56	.55
1922–23.	.49	.54	.57	.60	.61	.57	.60	.59	.64	.61	.58	.59	.58
1923–24.	.56	.58	.60	.61	.62								

Division of Statistical and Historical Research. Compiled from Minneapolis Market Record.

FLAX AND FLAX SEED.

TABLE 149.—*Flaxseed: Acreage, production value, exports, etc., United States, 1849-1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Domestic exports, fiscal year beginning July 1 [2]	Imports, fiscal year beginning July 1.[2]
	Acres.	*Bush. of 56 lbs.*	*Bushels.*	*Cents.*	*Dollars.*	*Dollars.*	*Bushels.*	*Bushels.*
1849			*562,000*				2,501	667,369
1859			*567,000*				2,715	[3] 3,000,000
1869			*1,730,000*				35	[3] 5,000,000
1879			*7,171,000*					1,464,195
1889	*1,319,000*	*7.8*	*10,250,000*				14,678	2,391,175
1899	*2,111,000*	*9.5*	*19,979,000*				2,830,991	67,379
1902	3,740,000	7.8	29,285,000	105.2	30,815,000	8.24	4,128,130	129,089
1903	3,233,000	8.4	27,301,000	81.7	22,292,000	6.90	758,379	213,270
1904	2,264,000	10.3	23,401,000	99.3	23,229,000	10.26	1,338	296,184
1905	2,535,000	11.2	28,478,000	84.4	24,049,000	9.49	5,988,519	52,240
1906	2,506,000	10.2	25,576,000	101.3	25,899,000	10.33	6,336,310	90,356
1907	2,804,000	9.0	25,851,000	95.6	24,713,000	8.63	4,277,313	57,419
1908	2,679,000	9.6	25,805,000	118.4	30,577,000	11.41	882,889	593,668
1909	*2,083,000*	9.5	19,699,000	152.8	30,093,000	14.45	65,193	5,002,496
1910	2,407,000	5.2	12,718,000	231.7	29,472,000	11.95	976	10,499,227
1911	2,757,000	7.0	19,370,000	182.1	35,272,000	12.79	4,323	6,841,806
1912	2,851,000	9.8	28,073,000	114.7	32,202,000	11.29	16,894	5,294,296
1913	2,291,000	7.8	17,853,000	119.9	21,399,000	9.34	305,546	8,653,235
Av. 1909–1913	2,490,000	7.9	19,543,000	151.9	29,688,000	11.92	78,586	7,258,212
1914	1,645,000	8.4	13,749,000	126.0	17,318,000	10.53	4,145	10,666,215
1915	1,387,000	10.1	14,030,000	174.0	24,410,000	17.60	2,614	14,679,233
1916	1,474,000	9.7	14,296,000	248.6	35,541,000	24.11	1,017	12,393,988
1917	1,984,000	4.6	9,164,000	296.6	27,182,000	13.70	21,481	13,366,529
1918	1,910,000	7.0	13,369,000	340.1	45,470,000	23.81	15,574	8,426,886
1919	1,503,000	4.8	7,256,000	438.3	31,802,000	21.16	24,044	23,391,934
1920	1,757,000	6.1	10,774,000	176.7	19,039,000	10.84	1,481	16,170,415
Av. 1914–1920	1,666,000	7.1	11,805,000	242.9	28,680,000	17.21	10,051	14,156,457
1921	1,108,000	7.2	8,029,000	145.1	11,648,000	10.51	2,267	13,632,073
1922	1,113,000	9.3	10,375,000	211.5	21,941,000	19.71		25,005,936
1923 [4]	2,061,000	8.5	17,429,000	210.8	36,733,000	17.82		

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] Compiled from reports of Bureau of Foreign and Domestic Commerce.
[3] Approximate.
[4] Preliminary.

TABLE 150.—*Flaxseed: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923[1]	1921	1922	1923[1]	1921	1922	1923[1]
Wisconsin	6	4	8	63	52	97	94	94	204
Minnesota	314	310	527	2,983	3,100	5,270	4,504	6,758	11,225
Iowa	8	8	9	70	83	86	107	154	181
North Dakota	430	521	1,094	2,795	4,845	8,424	3,997	10,368	17,859
South Dakota	216	162	284	1,404	1,539	2,414	1,952	3,093	5,021
Nebraska	3	3	4	24	24	44	36	46	92
Kansas	20	20	24	134	120	182	181	223	391
Montana	110	84	110	550	605	902	770	1,092	1,741
Wyoming	1	1	1	6	7	10	7	13	19
	1,108	1,113	2,061	8,029	10,375	17,429	11,648	21,941	36,733

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 151.—*Flaxseed: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Wisconsin	16.0	14.5	10.0	12.0	12.5	14.0	12.6	13.5	13.5	12.0	----	11.0	10.5	11.0	-----	10.5	13.0	12.1
Minnesota	10.6	10.0	7.5	8.0	10.2	9.0	8.9	9.3	10.5	8.5	9.5	10.4	8.0	9.5	9.4	9.5	10.0	10.0
Iowa	10.9	9.8	12.2	8.0	11.5	9.4	10.2	9.5	9.0	10.0	11.0	11.0	16.0	12.0	11.2	8.7	10.4	9.5
North Dakota	9.0	9.3	3.6	7.6	9.7	7.2	7.5	8.3	9.9	10.3	3.9	7.8	4.6	5.3	7.2	6.5	9.3	7.7
South Dakota	10.7	9.4	5.0	5.3	8.6	7.2	7.1	7.5	11.0	9.3	7.0	9.5	7.0	10.0	8.8	6.5	9.5	8.5
Nebraska	11.0	8.5	8.0	5.0	9.5	6.0	7.4	7.0	11.0	8.0	5.5	9.5	5.0	9.0	7.9	8.0	8.0	11.0
Kansas	6.5	7.0	8.2	3.0	6.0	6.0	6.0	6.0	5.7	5.8	7.0	5.0	6.3	6.9	6.1	6.7	6.0	7.6
Montana	11.5	12.0	7.0	7.7	12.0	9.0	9.5	8.0	10.5	9.5	3.0	3.0	1.3	2.6	5.4	5.0	7.2	8.2
Wyoming	----	----	----	----	----	----	----	----	13.0	7.0	6.5	9.0	4.0	8.2	8.0	5.7	7.0	10.0
United States	9.6	9.5	5.2	7.0	9.8	7.8	7.9	8.4	10.1	9.7	4.6	7.0	4.8	6.1	7.2	7.2	9.3	8.5

Division of Crop and Livestock Estimates.

TABLE 152.—*Flaxseed: Condition of crop, 1st of month, and yield per acre, United States, 1903–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1903	86.2	80.3	80.5	74.0	8.4	1914	90.5	82.1	72.9	77.4	8.4
1904	86.6	78.9	85.8	87.0	10.3	1915	88.5	91.2	87.6	84.5	10.1
1905	92.7	96.7	94.2	91.5	11.2	1916	90.3	84.0	84.8	86.2	9.7
1906	93.2	92.2	89.0	87.4	10.2	1917	84.0	60.6	50.2	51.3	4.6
1907	91.2	91.9	85.4	78.0	9.0	1918	79.8	70.6	72.6	70.8	7.0
1908	92.5	86.1	82.5	81.2	9.6	1919	73.5	52.7	50.5	52.6	4.8
						1920	89.1	80.1	63.8	62.8	6.1
1909	95.1	92.7	88.9	84.9	9.5						
1910	65.0	51.7	48.3	47.2	5.2	Av. 1914–1920	85.1	74.5	68.9	69.4	7.2
1911	80.9	71.0	68.4	69.6	7.0						
1912	88.9	87.5	86.3	83.8	9.8	1921	82.7	70.0	62.3	66.8	7.2
1913	82.0	77.4	74.9	74.7	7.8	1922	87.6	84.7	82.7	82.6	9.3
						1923	85.0	82.4	79.0	80.4	8.5
Av. 1909–1913	82.4	76.1	73.4	72.0	7.9						

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 153.—*Flaxseed: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1910–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1910	49.4	(2)	--------	2.5	0.9	6.2	0.1	59.3	1.3	1.7	(2)	0.1	63.1
1911	16.4	1.1	--------	8.4	.9	2.8	.1	30.5	2.2	1.7	(2)	.2	36.3
1912	5.1	2.9	0.2	5.9	2.8	1.1	.8	19.0	3.7	.4	0.4	1.4	26.6
1913	24.3	.7	.1	1.0	1.7	2.2	.2	30.6	1.6	.2	------	.4	34.5
1914	11.4	1.7	.2	2.0	1.9	6.6	.3	24.1	2.2	.5	.2	.4	29.1
1915	2.1	2.0	.3	8.5	2.1	.4	.2	16.1	2.6	.1	(2)	(2)	20.0
1916	3.3	2.3	.3	1.4	1.7	2.8	.3	12.4	3.9	.1	(2)	.1	17.2
1917	51.3	.3	(2)	2.9	1.2	2.9	(2)	59.3	1.2	1.2	(2)	.1	62.3
1918	26.2	.2	.1	3.3	2.3	2.5	.2	34.8	1.0	2.6	(2)	.1	39.3
1919	38.0	.7	.1	.5	2.0	4.1	(2)	45.5	3.7	10.6	.1	(2)	60.2
1920	23.2	1.2	.3	.6	1.7	4.2	.2	31.7	4.5	3.7	--------	.1	41.4
1921	25.2	.9	.2	.4	1.9	6.6	.1	35.3	4.3	3.1	--------	.1	43.5
1922	9.6	.4	.1	.3	2.4	1.7	.2	14.8	2.6	3.9	(2)	.1	21.4

Division of Crop and Livestock Estimates.

[1] Includes all other causes.
[2] Less than 0.05 per cent.

TABLE 154.—*Flax: Area in undermentioned countries, 1909–1923.*

NORTHERN HEMISPHERE.

Country.	Area.				
	Average, 1909–1913.	1920	1921	1922	1923
NORTH AMERICA.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Canada	1,035,000	1,428,164	533,147	565,479	629,938
United States	2,489,800	1,757,000	1,108,000	1,113,000	2,061,000
EUROPE.					
United Kingdom:					
England and Wales	480	22,300	7,800	9,360	9,446
Ireland	53,000	127,198	39,845	34,032	----------
Sweden	3,841	6,726	6,726	5,600	----------
Netherlands	33,000	60,179	21,510	23,954	24,300
Belgium	48,930	125,344	37,164	40,700	45,200
France	[1] 61,540	86,048	43,163	45,429	----------
Spain	[2] 7,349	2,978	4,097	4,200	4,200
Italy	[3] 41,513	49,914	52,632	52,385	49,400
Germany	[4] [1] 41,266	139,458	117,795	114,580	----------
Austria	[1] 96,525	7,554	8,357	9,200	----------
Czechoslovakia	----------	54,406	58,409	56,151	55,059
Hungary	[1] 24,657	38,967	10,366	6,600	4,700
Yugoslavia	----------	34,886	35,661	34,100	----------
Serbia, Croatia-Slavonia, and Bosnia-Herzegovina	[1] 21,000	----------	----------	----------	----------
Bulgaria	[1] 720	1,290	638	1,700	1,300
Rumania	[1] 52,266	24,582	27,225	26,800	30,500
Poland	[5]	120,825	175,095	251,500	255,600
Lithuania	----------	166,076	126,800	126,500	128,700
Latvia	----------	75,363	84,335	93,300	139,500
Esthonia	----------	50,048	50,342	59,200	59,200
Finland	[4] 12,236	15,985	16,828	13,600	10,600
Russia, including Ukraine and Northern Caucasia	[1] [5] 3,409,345	1,538,000	[6] 1,775,000	1,862,000	----------
AFRICA.					
Morocco (French, Western)	----------	96,147	43,663	31,700	39,500
Algeria	1,366	988	741	700	800
Tunis	----------	8,317	9,180	3,800	7,400
Egypt	----------	5,765	1,384	1,400	1,700
Kenya	----------	26,474	14,584	----------	----------
ASIA.					
India	3,818,080	3,103,000	2,269,000	3,011,000	3,358,000
Russia, Asiatic	[1] 376,000	213,000	----------	298,000	----------
Japan	12,139	103,201	76,428	39,100	----------

SOUTHERN HEMISPHERE.

Country.	Area.				
	Average, 1909–1913	1920–21	1921–22	1922–23	1923–24
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Chile	3,149	897	500	800	----------
Uruguay	126,528	78,867	60,935	84,500	102,500
Argentina	4,004,058	4,769,030	3,891,825	4,194,028	5,254,695
Australia	[2] 1,056	1,072	954	----------	----------
New Zealand	[4] 2,565	9,662	5,881	10,600	----------
World total comparable with 1909–1913	15,777,409	14,183,008	----------	----------	----------
World total comparable with 1923	----------	12,025,535	8,591,116	9,771,557	12,273,238

Division of Statistical and Historical Research.
Official and International Institute of Agriculture, unless otherwise stated.
Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Pre-war boundaries.
[2] Two years.
[3] Three-year average.
[4] One year.
[5] Pre-war Poland included in Russia, Austria, and Germany.
[6] From an unofficial source.

TABLE 155.—*Flax: Production in undermentioned countries, 1909–1923.*

NORTHERN HEMISPHERE.

Country.	Seed.				Fiber.			
	Average 1909–1913.	1921	1922	1923	Average 1909–1913.	1921	1922	1923
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Canada	12,040	4,112	5,009	6,942				
United States	19,543	8,029	10,375	17,429				
EUROPE.								
United Kingdom: England and Wales					23,701	10,725	12,390	
Ireland					[1] 1,128	1,512	1,098	
Sweden	[1] 14	17	11		17,276	10,853	9,691	
Netherlands	374	249	250		[2] 51,888	20,027	33,480	40,370
Belgium	[2] 472	328	356	396	[3] 40,623	23,333	30,185	
France	[3] 533	288	223		[2] 1,995	1,157	1,420	1,170
Spain	[2] 26	46	51	51	6,289	5,930	4,982	5,510
Italy	329	516	413	433	[3] 53,116	6,739	7,130	
Austria	[3] 694	45	48			28,693	27,731	30,078
Czechoslovakia		300	312	427	[3] 20,547	7,618	5,190	
Hungary	[3] 196	73	41			16,680	15,270	
Yugoslavia								
Serbia, Croatia-Slavonia and Bosnia-Herzegovina	[3] 21				[3] 10,564			
Bulgaria	[3] 6	3	15	11	[1] [3] 447	169	650	550
Rumania	[3] 467	128	194		[3] 4,864	2,670	3,110	
Poland	[4]	1,287	1,995		[4]	92,614	113,770	
Lithuania		909	1,108	1,026		41,470	45,190	45,970
Latvia		625	563	982		30,675	37,560	54,180
Esthonia		275	328	304		15,906	20,750	19,800
Finland						3,486	3,527	
Russia, including Ukraine and Northern Caucasia	[3] [4] 21,338		7,866		[4] 1,255,973		429,995	
AFRICA.								
Morocco (French)		418	267					
Algeria	13	11	6	10	[5] 188			
Tunis	37	59	4	47				
Kenya		35	33			2,545		
ASIA.								
India	19,870	10,800	17,440	21,280				
Asiatic Russia	[2] 2,123		1,532		[3] 127,613		61,392	
Japan	[1] 98	634	275		5,174	24,980	10,710	

SOUTHERN HEMISPHERE.

Country.	Seed.				Fiber.			
	Average 1909–1913.	1921–22	1922–23	1923–24	Average 1909–1913.	1921–22	1922–23	1923–24
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Chile	35	8			43	210		
Uruguay	976	519	719					
Argentina	31,117	36,046	44,280	63,225				
Australia	[5] 9	10			[5] 128	49		
New Zealand		113	205					
World total comparable with 1909–1913	110,331				1,621,557			
World total comparable with 1923		62,059	80,260	112,563		144,027	171,763	197,628

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Four-year average.
[2] Three-year average.
[3] Pre-war boundaries.
[4] Pre-war Poland included in Russia, Austria, and Germany.
[5] Two years.

TABLE 156.—*Flaxseed: Monthly marketings by farmers, United States, 1917–1922.*

Year beginning July 1.	Percentage of year's receipts as reported by about 3,500 mills and elevators.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	1.8	3.6	21.5	28.1	17.6	7.6	4.7	4.0	4.8	1.8	1.6	2.9	100.0
1918–19	1.8	2.9	14.8	21.5	15.0	10.9	5.2	4.4	5.8	4.3	5.0	8.4	100.0
1919–20	3.6	8.0	20.6	22.2	11.1	7.4	5.0	6.3	3.1	3.1	2.6	7.0	100.0
1920–21	2.1	4.7	23.6	28.6	13.0	6.2	5.0	3.3	3.1	2.1	3.4	4.9	100.0
1921–22	6.4	10.9	20.7	25.7	12.0	6.9	4.3	2.8	3.0	2.4	2.1	2.8	100.0
1922–23	2.5	13.4	27.6	23.3	11.4	5.9	4.7	3.0	2.7	2.3	1.6	1.6	100.0

Division of Crop and Livestock Estimates.

TABLE 157.—*Flaxseed: Receipts at Minneapolis, 1910–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Total.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1910–11	864	1,530	1,292	535	338	300	232	112	118	122	133	191	5,757
1911–12	503	1,212	1,570	1,716	531	459	397	468	571	440	487	160	8,574
1912–13	700	1,657	1,520	2,245	1,450	1,146	1,057	742	518	514	432	281	12,362
1913–14	756	1,686	1,505	1,131	711	478	592	270	139	165	233	117	7,783
1914–15	901	1,890	1,247	1,016	599	443	384	142	77	146	239	115	7,199
1915–16	347	1,038	1,506	1,113	319	399	810	496	440	363	441	199	7,461
1916–17	316	2,380	1,694	1,045	544	442	441	384	263	565	325	92	8,491
1917–18	265	980	1,112	614	533	553	527	283	349	648	208	94	6,166
1918–19	536	915	857	788	558	473	829	439	436	942	642	196	7,611
1919–20	753	570	568	492	344	368	409	159	295	522	554	297	5,331
1920–21	580	1,444	861	699	298	269	364	434	578	572	338	289	6,726
Av. 1914–1920	528	1,317	1,121	824	457	421	538	332	348	537	392	183	6,998
1921–22	500	1,144	375	354	308	200	254	196	300	220	157	288	4,296
1922–23	909	1,121	580	577	494	238	316	456	393	458	382	884	6,808
1923–24	2,553	2,025	1,360	865									

Division of Statistical and Historical Research. Compiled from Minneapolis Chamber of Commerce reports and Daily Market Record.

TABLE 158.—*Flaxseed, including linseed oil: Production, imports, exports, and net supply in the United States, 1911–1922.*

Year beginning July 1.	Production.	Imports of seed.	Imports of oil.[1]	Exports of seed (domestic and foreign).	Exports of oil (domestic and foreign).[1]	Net supply.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1911–12	19,370,000	6,841,806	204,902	26,242	99,065	26,381,381
1912–13	28,073,000	5,294,296	69,476	17,062	693,579	32,726,131
1913–14	17,853,000	8,553,235	70,913	305,796	95,775	26,181,577
1914–15	13,749,000	10,666,215	214,116	67,173	484,857	24,077,301
1915–16	14,030,000	14,679,233	20,059	2,631	285,648	28,441,013
1916–17	14,296,000	12,393,988	44,328	1,017	480,622	26,252,672
1917–18	9,164,000	13,366,529	20,331	22,332	476,216	22,052,312
1918–19	13,369,000	8,426,886	395,925	15,618	439,173	21,737,020
1919–20	7,256,000	23,391,934	1,820,156	48,980	456,806	31,962,304
1920–21	10,774,000	16,170,415	798,634	1,486	224,514	27,517,049
1921–22	8,029,000	13,632,073	8,997,620	2,281	148,605	30,507,807
1922–23	10,375,000	25,005,936	3,027,399	[2] 216	165,605	38,242,514

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce and Division of Crop and Live Stock Estimates.

[1] Stated as seed equivalent, 2½ gallons of oil equal 1 bushel of seed.

[2] Six months beginning July 1, not separately reported in 1923.

TABLE 159.—*Flaxseed used in the production of oil, United States, 1919–1923.*

Year.	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	Year ending June 30.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1918-19			1,041	4,785	
1919-20	6,899	7,684	6,336	6,407	27,326
1920-21	6,542	6,341	6,343	6,332	25,558
1921-22	5,812	7,539	6,713	3,441	23,505
1922-23	5,583	8,602	8,292	8,689	31,166
1923-24	8,223	8,970			

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census. Converted to bushels of 56 pounds.

TABLE 160.—*Flaxseed: Imports into the United States by countries, 1910—1923.*

Year ending June 30.	Argentina.	Canada.	British India.	Other countries.	Total.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1909-10	3,029	1,410	194	369	5,002
1910-11	5,021	2,251	2,334	893	10,499
1911-12	1,211	3,511	1,525	595	6,842
1912-13	429	4,732	129	4	5,294
1913-14		8,647	[1]	6	8,653
1914-15	3,928	6,630	40	68	10,666
1915-16	11,468	3,095		116	14,679
1916-17	5,009	7,015	123	247	12,394
1917-18	7,432	5,501		434	13,367
1918-19	6,977	1,304	11	135	8,427
1919-20	22,242	816		334	23,392
1920-21	13,145	2,635		390	16,170
1921-22	10,409	3,013	12	198	13,632
1922-23	22,331	2,191		484	25,006

Division of Statistical and Historical Research. [1] Less than 500 bushels.

TABLE 161.—*Flaxseed: International trade, calendar years, 1911–1922.*

Country.	Average 1911-1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Argentina	1	25,562	3	41,829		53,549		36,453
British India	[1] 323	[1] 14,409	280	7,839	283	4,264	260	12,404
Canada	89	10,645	617	1,519	270	3,728	45	2,073
China		648	3	242		184		1,331
Latvia			[2] 6	[2] 9	[2] 47	[2] 191	[2] 74	[2] 499
Morocco (French)		338		706		590		[2] 225
Rumania	19	120						
Russia	80	5,739			[2] 248			
Tunis	(3)	39	1	36	(3)	79	(3)	22
Uruguay		994		784		[2] 887		[2] 500
PRINCIPAL IMPORTING COUNTRIES.								
Australia	103	(3)	552	(3)	712	(3)	[2] 818	(3)
Austria			[2] 24	(3)	[2] 4	(3)	[2] 1	(3)
Austria-Hungary	1,913	41						
Belgium	9,313	5,965	1,586	111	6,273	2,516	2,934	102
Czechoslovakia			[2] 102	(3)	[2] 350	(3)	[2] 402	(3)
Denmark	1		1,049	(3)	1,106	(3)	602	(3)
Finland	110	(3)	104		139		142	[2] 1
France	6,304	60	1,284	67	4,280	12	5,288	47
Germany	15,312	210	2,089	13	[2] 5,908	[4] 45	4,061	2
Hungary					[2] 1		[2] 1	
Italy	1,698	1	871	(3)	749	(3)	1,217	2
Japan	[5] 27	[5] 27	114	74	162	103	[2] 139	[2] 14
Netherlands	8,741	2,488	3,826	179	10,788	210	9,862	201
Norway	445		332		438		353	
Sweden	911	7	1,085	(3)	1,061	1	1,042	
United Kingdom	15,908		15,520		18,528		14,093	
United States	7,298	101	24,641	16	12,326	(3)	14,913	2
Other countries	575	139	32	74	32	212	25	209
Total	69,171	67,533	54,121	53,498	63,705	66,571	56,272	54,087

Division of Statistical and Historical Research. Official sources except where otherwise noted.

[1] Two-year average. [2] International Institute of Agriculture. [3] Less than 500 bushels. [4] Eight months, May–December. [5] One year only.

TABLE 162.—*Flaxseed: Farm price per bushel, 1st of month, United States, 1908–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Weighted av., crop year.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–9	109.6	107.0	108.3	118.4	123.2	129.8	141.3	145.6	148.7	153.4	153.2	137.0	118.4
1909–10	123.1	122.8	139.8	152.9	171.2	192.9	193.1	193.9	209.5	195.5	183.5	209.7	153.2
1910–11	220.0	234.3	229.4	231.7	221.1	233.9	240.7	234.6	241.9	225.0	205.6	199.2	229.4
1911–12	203.6	205.0	210.6	182.1	187.1	190.8	183.9	191.3	181.0	205.0	198.4	175.2	197.1
1912–13	162.6	147.7	133.4	114.7	106.2	109.3	119.0	113.6	114.3	115.8	113.4	118.6	125.9
1913–14	127.8	122.6	118.7	119.9	124.2	127.8	132.5	132.8	134.7	136.8	136.0	150.7	123.2
Av. 1909–1913	167.4	166.5	166.4	160.3	162.0	170.9	173.8	173.2	176.3	175.6	167.4	170.7	165.8
1914–15	139.3	127.4	118.7	126.0	134.8	163.7	157.9	167.7	169.6	169.5	152.5	144.6	132.0
1915–16	143.5	148.1	162.9	174.0	185.9	210.9	202.5	202.1	191.8	176.5	163.2	178.1	170.6
1916–17	190.2	199.2	234.7	248.6	250.7	253.7	253.1	266.1	300.6	298.8	278.0	271.6	239.4
1917–18	302.8	308.5	295.9	296.6	310.8	326.7	349.8	379.7	373.3	363.6	349.3	410.5	311.0
1918–19	381.2	380.9	333.8	340.1	327.7	310.1	327.4	348.7	361.4	389.3	444.1	540.6	349.2
1919–20	517.5	438.2	382.3	438.3	433.6	456.5	472.7	455.7	448.2	421.1	359.6	303.7	421.4
1920–21	290.3	279.7	240.1	176.7	163.7	156.3	150.4	142.6	125.7	145.7	145.8	162.1	208.4
Av. 1914–1920	280.7	268.9	252.6	257.2	258.2	268.3	273.4	280.4	281.5	280.6	270.4	287.3	261.7
1921–22	164.8	162.9	145.0	145.1	151.1	173.1	216.2	218.7	230.6	236.9	223.0	211.4	161.2
1922–23	190.1	188.1	210.7	211.5	224.2	235.6	255.1	268.0	291.0	255.2	241.7	215.9	216.0
1923–24	204.8	212.1	212.1	210.8									

Division of Crop and Livestock Estimates.

TABLE 163.—*Flaxseed: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Wisconsin	115	135	220	185	127	123	158	125	180	240
Minnesota	120	150	230	182	120	123	161	128	176	240
Iowa	110	130	220	185	124	123	156	120	150	215
North Dakota	119	157	235	184	114	121	162	128	178	252
South Dakota	119	151	229	178	113	120	158	123	167	247
Nebraska	112	122	225	185	128	110	154	119	147	230
Kansas	102	110	210	190	130	116	151	125	145	234
Montana	100	160	240	180	112	115	161	120	170	248
Wyoming									145	225
	118.4	152.6	231.7	182.1	114.7	119.9	160.2	126.0	174.0	248.6

State.	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dollars.*
Wisconsin		330	430	212		150	180	210	25.41
Minnesota	295	341	445	183	258	151	218	213	21.30
Iowa	275	320	420	180	240	153	185	210	19.95
North Dakota	300	345	441	178	260	143	214	212	16.32
South Dakota	299	325	425	165	250	139	201	208	17.68
Nebraska	250	330	400	155	233	150	190	210	23.10
Kansas	290	330	380	180	241	135	186	215	16.34
Montana	295	338	440	175	255	140	197	193	15.83
Wyoming	261	325	350	135	240	118	190	190	19.00
	296.6	340.1	438.3	176.7	257.2	145.1	211.5	210.8	17.82

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 164.—*Flaxseed: Average closing price per bushel, Minneapolis, 1899–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1899–1900					$1.45	$1.55	$1.59	$1.68	$1.75	$1.75	$1.63	$1.35	
1900–1	$1.49	$1.70	$1.71	$1.62	1.65	1.60	1.54	1.68	1.75	1.75	1.85	1.60	$1.66
1901–2	1.50	1.45	1.42	1.47	1.65	1.70	1.72	1.75	1.75	1.74	1.52	1.42	1.59
1902–3	1.31	1.20	1.18	1.19	1.19	1.15	1.12	1.10	1.14	1.07	.97	.97	1.13
1903–4	1.00	.98	.94	.97	1.06	1.15	1.14	1.12	1.06	1.07	1.19	1.24	1.08
1904–5	1.22	1.14	1.16	1.23	1.23	1.27	1.39	1.39	1.42	1.47	1.47	1.42	1.32
1905–6	1.04	.97	.98	1.04	1.16	1.14	1.13	1.15	1.14	1.11	1.10	1.11	1.09
1906–7	1.10	1.11	1.17	1.19	1.20	1.22	1.19	1.16	1.23	1.25	1.18	1.14	1.18
1907–8	1.22	1.27	1.13	1.12	1.17	1.16	1.16	1.17	1.23	1.23	1.21	1.29	1.20
1908–9	1.23	1.22	1.38	1.45	1.56	1.64	1.64	1.65	1.72	1.77	1.59	1.42	1.52
1909–10	1.41	1.57	1.75	1.93	2.18	2.18	2.25	2.38	2.22	2.04	2.34	2.47	2.06
1910–11	2.66	2.62	2.61	2.42	2.60	2.68	2.60	2.56	2.47	2.24	2.10	2.34	2.49
1911–12	2.47	2.35	2.04	2.06	2.15	2.06	2.06	2.15	2.23	2.25	1.97	1.86	2.14
1912–13	1.76	1.60	1.35	1.25	1.29	1.34	1.26	1.29	1.30	1.31	1.38	1.47	1.38
1913–14	1.45	1.38	1.35	1.44	1.49	1.53	1.58	1.54	1.56	1.59	1.68	1.64	1.52
Av. 1909–1913	1.95	1.90	1.82	1.82	1.94	1.96	1.95	1.98	1.96	1.89	1.89	1.96	1.92
1914–15	1.51	1.33	1.45	1.54	1.83	1.86	1.91	1.93	1.95	1.76	1.67	1.67	1.70
1915–16	1.70	1.86	1.99	2.07	2.31	2.32	2.27	2.13	1.96	1.80	1.96	2.15	2.04
1916–17	2.11	2.54	2.78	2.84	2.89	2.81	2.90	3.18	3.33	3.11	3.01	3.46	2.91
1917–18	3.38	3.16	3.29	3.40	3.60	3.74	4.08	4.09	3.93	3.86	4.40	4.39	3.78
1918–19	4.09	3.59	3.77	3.54	3.41	3.45	3.75	3.88	4.12	4.86	5.94	5.87	4.19
1919–20	4.92	4.32	4.83	4.99	5.12	5.09	5.02	4.68	4.53	3.92	3.48	3.28	4.52
1920–21	3.23	2.83	2.27	2.06	1.96	1.82	1.78	1.58	1.84	1.86	1.89	2.01	2.09
Av. 1914–1920	2.99	2.80	2.91	2.92	3.02	3.01	3.10	3.07	3.09	3.02	3.19	3.26	3.03
1921–22	2.03	1.81	1.81	1.89	2.13	2.46	2.57	2.70	2.80	2.50	2.59	2.29	2.19
1922–23	2.28	2.38	2.48	2.62	2.80	3.04	3.07	3.40	2.94	2.80	2.70	2.34	2.58
1923–24	2.38	2.48	2.41	2.46									

Division of Statistical and Historical Research. Complied from Annual Reports of the Minneapolis Chamber of Commerce and the Minneapolis Daily Market Record. From Jan. 1, 1921, prices are weighted averages.

LINSEED OIL.

TABLE 165.—*Linseed oil: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.[1]		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Argentina	886	[2] 2	522	3,013		747		2,108
Belgium	10,233	26,790	7,795	16,117	11,205	25,623	1,272	19,831
Denmark	(3)	(3)	845	5,777	865	2,281		391
Netherlands	457	73,634	2,137	59,239	2,124	145,569	62	157,920
United Kingdom	58,018	58,013	3,358	108,463	110	123,764	9,103	133,388
PRINCIPAL IMPORTING COUNTRIES.								
Australia	12,252		3,487	320	5,737	55		
Austria			[1] 2,847		[1] 6,863			
Austria-Hungary	16,367	6,542						
Brazil	8,726		8,769		4,617			
British India	3,430	1,967	2,594	3,125	1,953	399	2,792	290
Canada	2,279		8,323		254	58	1,058	94
Chile	2,854	15	3,112		777			
Czechoslovakia			[1] 5,557	[1] 7	7,070	[1] 320		
Dutch East Indies	[4] 3,199		6,643		3,307		[5] 2,220	
Egypt	3,467		2,034	6	2,615		3,134	
Finland	812		295		1,442		2,695	
France	3,382	10,931	26,630	3,866	29,511	3,035	9,062	3,371
Germany	5,231	4,377			[1] 77,016	[1] 4,325	64,458	3,394
Greece	246		1,006		1,267		915	
Italy	1,042	165	9,220	395	7,564	474	6,617	196
Hungary			[1] 450		[1] 2,484			
Japan	1,023		150			275		
New Zealand	4,188		4,783		3,318		2,701	
Norway	1,609	[6] 53	2,303	49	8,104	19	5,666	
Philippine Islands	809		1,653		1,037		852	
Sweden	933	5	1,148	75	1,301	7		
Switzerland	7,825	16	4,607	1,842	8,189	396	8,584	29
Union South Africa	3,449		3,650	(7)	3,312		2,930	1
United States	2,605	4,105	35,200	5,366	60,091	3,512	144,137	2,703
Other countries	6,539	1,460	7,182	191	4,513	145	2,142	144
Total	162,041	188,075	156,300	207,841	256,846	311,004	270,400	323,860

Division of Statistical and Historical Research. Official sources except where otherwise noted. (Conversions made on the basis of 7.5 pounds to the gallon).

[1] International Institute of Agriculture, for Oleaginous Products and Vegetable Oils, 1923.
[2] Four-year average. [4] Two-year average. [6] Includes re-exports.
[3] Not separately stated. [5] Java and Madura only. [7] Less than 500 pounds.

TABLE 166.—*Linseed oil: Average price per gallon at New York, 1910–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$0.90	$0.90	$0.95	$0.95	$0.95	$0.96	$0.96	$0.91	$0.91	$0.89	$0.87	$0.80	$0.91
1911–12	.87	.88	.84	.71	.74	.71	.70	.73	.73	.76	.77	.66	.76
1912–13	.66	.62	.56	.43	.42	.46	.45	.44	.46	.45	.47	.49	.49
1913–14	.50	.47	.46	.48	.48	.48	.50	.51	.50	.50	.52	.59	.50
1914–15	.57	.49	.44	.45	.48	.56	.55	.58	.62	.63	.54	.50	.53
1915–16	.52	.55	.60	.61	.66	.72	.77	.76	.75	.67	.63	.71	.66
1916–17	.70	.82	.90	.92	.94	.95	.94	1.07	1.21	1.21	1.12	1.18	1.00
1917–18	1.25	1.18	1.15	1.21	1.29	1.29	1.41	1.57	1.57	1.57	1.64	1.88	1.42
1918–19	1.90	1.83	1.55	1.58	1.50	1.45	1.48	1.54	1.61	1.81	2.10	2.22	1.71
1919–20	2.04	1.79	1.75	1.82	1.77	1.77	1.80	1.83	1.69	1.65	1.52	1.41	1.74
1920–21	1.22	1.20	.98	.82	.78	.66	.66	.61	.70	.75	.75	.74	.82
Av. 1914–1920	1.17	1.12	1.05	1.06	1.06	1.06	1.09	1.14	1.16	1.18	1.19	1.23	1.13
1921–22	.74	.68	.67	.67	.72	.82	.82	.84	.90	.84	.89	.87	.79
1922–23	.88	.89	.88	.89	.89	.95	1.02	1.16	1.15	1.12	1.04	.97	.99
1923–24	.90	.94	.92	.92									

Division of Statistical and Historical Research. Figures for 1910–1915 from Monthly Labor Review; 1916–1918 from War Industries Board Price Bulletin; 1919–1923 from Oil, Paint, and Drug Reporter.

TABLE 167.—*Rice, rough: Acreage, production, value, exports, etc., United States, 1904–1923.*

Calender year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Domestic exports, fiscal year beginning July 1.[2]	Net imports, fiscal year beginning July 1.[2]
	Acres.	*Bush. of 45 lbs.*	*Bushels.*	*Cents.*	*Dollars.*	*Dolls.*	*Bushels.*	*Bushels.*
1904	662,000	31.9	21,096,000	65.8	13,892,000	20.98	5,964,814	3,501,337
1905	482,000	28.2	13,607,000	95.2	12,956,000	26.88	3,612,289	5,593,750
1906	575,000	31.1	17,855,000	90.3	16,121,000	28.04	3,790,080	7,264,859
1907	627,000	29.9	18,738,000	85.8	16,081,000	25.65	3,033,788	7,333,910
1908	655,000	33.4	21,890,000	81.2	17,771,000	27.13	3,406,070	7,760,164
1909	*610,000*	33.8	20,607,000	79.5	16,392,000	26.87	4,487,287	7,820,643
1910	723,000	33.9	24,510,000	67.8	16,624,000	22.99	5,134,355	7,292,960
1911	696,000	32.9	22,934,000	79.7	18,274,000	26.26	5,824,598	6,407,505
1912	723,000	34.7	25,054,000	93.5	23,423,000	32.40	5,672,996	7,539,206
1913	827,000	31.1	25,744,000	85.8	22,090,000	26.71	5,871,289	9,803,684
Av. 1909–1913	716,000	33.2	23,770,000	81.5	19,361,000	27.04	5,398,105	7,785,400
1914	694,000	34.1	23,649,000	92.4	21,849,000	31.48	7,334,389	7,848,181
1915	803,000	36.1	28,947,000	90.6	26,212,000	32.64	9,500,099	6,931,061
1916	869,000	47.0	40,861,000	88.9	36,311,000	41.78	12,315,486	6,180,934
1917	981,000	35.4	34,739,000	189.6	65,879,000	67.16	11,885,265	13,095,243
1918	1,119,000	34.5	38,606,000	191.8	74,042,000	66.17	12,892,196	5,309,014
1919	1,063,000	39.5	41,985,000	266.6	111,913,000	105.28	22,899,774	3,001,362
1920	1,336,000	39.0	52,066,000	119.1	62,036,000	46.43	22,449,930	1,267,391
Av. 1914–1920	981,000	38.0	37,265,000	152.7	56,892,000	57.99	14,183,306	6,233,312
1921	921,000	40.8	37,612,000	5.92	35,802,000	38.87	33,834,616	721,411
1922	1,055,009	39.2	41,405,000	93.1	38,562,000	36.55	21,583,818	1,332,360
1923[3]	892,000	37.3	33,256,000	110.3	36,686,000	41.13		

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based upon farm price Dec. 1.

[2] Bureau of Foreign and Domestic Commerce. Domestic exports here include also shipments from the United States to Porto Rico and Hawaii; net imports are total imports minus reexports. Bushels are computed from pounds as reported in original by assuming 1 bushel of rough rice to yield 27½ pounds of cleaned rice.

[3] Preliminary.

TABLE 168.—*Rice, rough: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
South Carolina	7	8	8	175	208	200	170	239	240
Georgia	3	3	3	78	72	68	72	84	90
Florida	4	3	2	88	75	46	85	98	62
Mississippi	1	1	1	20	19	18	24	21	21
Louisiana	480	555	480	17,280	19,980	15,840	14,861	17,782	16,949
Texas	166	191	159	5,993	5,959	6,360	6,053	5,363	7,314
Arkansas	125	154	133	6,688	7,392	5,254	6,153	6,506	5,884
California	135	140	106	7,290	7,700	5,470	8,384	8,470	6,126
	921	1,055	892	37,612	41,405	33,256	35,802	38,562	36,686

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 169.—*Rice, rough: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
South Carolina	24.0	25.6	21.0	11.7	25.0	30.0	22.7	26.0	24.3	14.0	25.0	23.0	24.0	25.0	23.0	25.0	26.0	25.0
Georgia	25.0	23.9	22.0	26.8	30.0	32.0	26.9	28.0	29.3	20.0	30.0	26.0	24.0	26.0	26.2	26.0	24.1	22.7
Florida	25.0	25.0	21.0	25.0	25.0	25.0	24.2	25.0	25.0	25.0	26.0	24.0	26.0	24.0	25.0	22.0	25.0	23.0
Mississippi	31.0	30.0	30.0	36.0	35.0	28.0	31.8	30.0	25.0	28.0	30.0	23.0	29.1	31.0	28.0	20.0	19.0	18.0
Louisiana	33.0	33.8	34.4	31.5	33.5	29.0	32.4	32.1	34.2	46.0	31.0	28.8	35.2	36.0	34.8	36.0	36.0	33.0
Texas	34.5	34.0	33.0	34.3	35.5	32.0	33.8	33.8	30.5	45.0	30.0	32.0	32.0	34.0	33.9	36.1	31.2	40.6
Arkansas	41.0	40.0	40.0	39.0	37.5	36.0	38.5	39.8	48.4	50.5	41.0	37.9	46.0	49.0	44.7	53.5	48.0	39.5
California	----	----	33.0	40.0	50.0	48.0	---	53.3	66.7	59.0	68.0	65.5	60.0	51.0	60.5	54.0	55.0	51.6
United States	33.4	33.8	33.9	32.9	34.7	31.1	33.3	34.1	36.1	47.0	35.4	34.5	39.5	39.0	37.9	40.8	39.2	37.3

Division of Crop and Livestock Estimates.

TABLE 170.—*Rice, rough: Condition of crop, 1st of month, and yield per acre, United States, 1894–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1894	91.1	91.0	89.4	89.8	----	1912	86.3	86.3	88.8	89.2	34.7
1895	84.4	84.1	94.5	90.3	53.0	1913	88.4	88.7	88.0	80.3	31.1
1896	82.9	77.2	76.5	68.6	35.7						
1897	94.3	83.4	86.2	83.4	29.8	Av. 1909–1913	87.9	87.1	87.5	84.8	33.3
1898	----	101.7	99.3	93.2	29.8						
						1914	86.5	87.6	88.9	88.0	34.1
1899	----	92.6	88.4	91.4	34.1	1915	90.5	90.0	82.3	80.9	36.1
1900	----	96.3	80.5	85.7	29.9	1916	92.7	92.2	91.2	91.5	47.0
1901	----	92.3	91.0	91.0	32.5	1917	85.1	85.0	78.4	79.7	35.4
1902	82.2	77.5	80.0	72.2	26.9	1918	91.1	85.7	85.7	85.4	34.5
1903	93.5	92.0	93.6	90.6	32.7	1919	89.5	90.4	91.9	91.3	39.5
						1920	90.0	88.7	88.3	88.1	39.0
1904	88.2	90.2	89.7	87.3	31.9						
1905	88.0	92.9	92.2	89.3	28.1	Av. 1914–1920	89.3	88.5	86.7	86.4	37.9
1906	82.9	83.1	86.8	87.2	31.1						
1907	88.7	88.6	87.0	88.7	29.9	1921	88.0	86.5	83.8	84.6	40.8
1908	92.9	94.1	93.5	87.7	33.4	1922	88.6	86.9	85.5	85.3	39.2
						1923	86.4	84.8	82.9	83.0	37.3
1909	90.7	84.5	84.7	81.2	33.8						
1910	80.3	87.6	88.8	88.1	33.9						
1911	87.7	88.3	87.2	85.4	32.9						

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 171.—*Rice: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1922.*

Year.	Deficient moisture.	Excessive moisture.	Floods	Frost and freeze.	Hail.	Hot winds.	Storms	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	4.6	0.1	------	------	------	1.1	6.6	12.4	2.7	0.9	0.2	0.1	17.0
1910	7.2	1.7	------	0.1	------	.1	1.0	10.1	3.4	.4	1.2	.3	17.3
1911	6.5	3.2	------	.2	------	.7	------	10.6	.7	.6	.5	.1	14.5
1912	3.1	1.1	6.2	------	------	.6	.5	11.6	2.5	2.0	.5	.6	19.6
1913	3.9	14.3	5.8	------	------	[2]	------	24.1	.1	.7	------	------	28.5
1914	5.3	2.3	.1	------	[2]	.6	.6	10.1	.1	1.3	[2]	.3	17.5
1915	7.0	.6	.1	.3	------	.4	8.1	16.7	.4	.2	------	[2]	19.4
1916	4.8	.2	------	.4	------	.3	.2	6.2	1.1	.3	------	.2	9.5
1917	17.3	.7	.1	1.5	0.1	.1	.1	20.0	.5	.2	.5	.1	25.4
1918	7.2	7.2	2.5	.2	------	.4	1.5	18.8	.3	1.0	[2]	------	21.7
1919	1.0	12.8	1.1	.3	------	.1	2.6	18.4	.3	.5	.7	.1	20.0
1920	.5	8.0	.4	1.2	.2	------	------	10.3	3.2	1.6	------	------	16.7
1921	4.5	.2	------	.3	------	.2	.1	5.3	1.6	2.7	------	.1	11.8
1922	3.8	4.2	------	.1	------	.1	------	8.2	3.4	1.0	.1	------	14.4

Division of Crop and Livestock Estimates.

[1] Includes all other causes.

[2] Less than 0.05 per cent.

TABLE 172.—*Rice: Area and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Area.					Yield per acre.				
	Av. 1909–1913.	1920	1921	1922	1923, preliminary.	Av. 1909–1913.	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	716	1,336	921	1,055	892	922	1,083	1,134	1,090	1,036
Mexico	[1] 162	------	------	54	------	[2] 605	------	------	822	------
Hawaii	[3] 9	------	------	------	------	------	------	------	------	------
CENTRAL AND SOUTH AMERICA AND WEST INDIES.										
Guatemala	------	7	8	8	8	------	------	------	------	------
Salvador	------	------	------	------	14	------	------	------	------	------
Costa Rica	[3] 7	------	------	15	------	------	------	------	------	------
British Guiana	36	66	56	49	------	1,496	848	1,198	916	------
Dutch Guiana	------	------	------	------	------	------	------	------	------	------
Porto Rico	[3] 16	------	------	------	------	[3] 269	------	------	------	------
Trinidad and Tobago	[4] 12	------	------	------	------	------	------	------	------	------
EUROPE.										
France	1	------	[5]	------	------	------	------	------	------	------
Spain	94	120	113	114	114	3,188	3,281	3,150	3,275	2,896
Portugal	------	------	14	15	------	------	------	1,046	1,851	------
Italy	358	277	286	294	302	1,806	2,217	2,243	2,151	2,253
Yugoslavia	------	4	5	6	------	------	------	------	------	------
Bulgaria	[6] 7	6	7	7	6	------	------	------	------	------
Russia (northern Caucasia)	[3] 2	------	------	------	------	------	------	------	------	------
AFRICA.										
French Guinea	------	1,384	------	------	------	------	551	------	------	------
French Senegal	------	173	------	------	------	------	326	------	------	------
Sierre Leone	------	400	400	400	------	------	622	605	588	------
Egypt	257	165	324	[7] 30	[7] 200	2,132	1,714	1,456	------	------

[1] Three years only.
[2] Two years only.
[3] One year only.
[4] Four years only.
[5] Less than 500 acres.
[6] Old boundaries.

TABLE 172.—*Rice: Area and yield per acre in undermentioned countries*—Contd.

NORTHERN HEMISPHERE—Continued.

Country.	Area.					Yield per acre.				
	Av. 1909–1913.	1920	1921	1922	1923, preliminary.	Av. 1909–1913.	1920	1921	1922	1923, preliminary.
ASIA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Turkey	[2] 151					[2] 1,099				
India	67,004	78,952	81,662	81,533	[6] 75,455	957	785	912	911	
Andaman and Nicobar		2	3	4						
British North Borneo			54	58				438		
French establishments in India	40	43	43	46		657	934	610	704	
Russia (Asiatic)	572					584				
Japanese Empire:										
Japan	7,300	7,662	7,680	7,697		2,163	2,591	2,257	2,477	
Chosen (Korea	2,905	3,812	3,753	3,818	[9] 3,582	1,133	1,227	1,202	1,239	1,363
Formosa (Taiwan)	1,193	1,236	1,860	1,253		1,183	1,231	840	1,459	
Kwangtung	1	2	2							
French Indo-China	[3] 8,550	11,761	11,984	[10] 12,000	[10] 11,000	[3] 858	534	662		
Siam	[11] 4,666	[11] 5,890	[11] 6,000	[12] 7,000	[12] 6,000	1,167	1,130	1,038		
Federated Malay States	[4] 118	197	200	196		[3] 637	626	593	655	
Unfederated Malay States	[8] 153	157	202	236			64	163	144	
Straits Settlements	93									
Philippine Islands	2,753	3,609	4,135	4,105		423	612	620	653	
Ceylon	695	757	799	850	800	686	635	618	615	370

SOUTHERN HEMISPHERE.

Country	Area.					Yield per acre.				
	Av. 1909–1913.	1920–21	1921–22	1922–23	1923–24, preliminary.	Av. 1909–1913.	1920–21	1921–22	1922–23	1923–24, preliminary.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Peru	[3] 131			70		[3] 639				
Brazil		905		599			1,446			
Argentina	[4] 11									
Belgian Congo		8	7							
Madagascar	[4] 979					[1] 916				
Java and Madura—										
Irrigated	5,953	6,835	6,472			1,206	1,129	1,073		
Non-irrigated		1,129	751				559	556		
Total Java and Madura	5,953	7,964	7,223	[11] 8,236	[11] 8,402					
Australia	[5]	[5]	[5]							
Fiji Islands	11	10	11							
Total comparable with 1909–1913	104,956									
Total comparable with 1923	91,205	111,030	113,072	114,937	106,753					

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture. Yield per acre not calculated where total acreage is below 15,000 acres.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[2] Two years only.
[3] One year only.
[4] Four years only.
[5] Less than 500 acres.
[7] Total area estimated from area reported for the summer or main crop which was 154,000 acres in 1923 compared with 24,000 acres in 1922. This crop in 1921 was 93 per cent of the total area devoted to rice in Egypt.
[8] Second forecast compared with 78,455,000 acres at the same time last year.
[9] Unofficial source.
[10] Total area estimated from that reported for Annam, Cochin-China, Laos, and the first crop of Tonking as 8,416,000 acres in 1923 compared with 8,881,000 acres in 1922.
[11] Area cultivated.
[12] Total area estimated from that reported for Bisnuloke and the six inner Provinces where rice for export is chiefly grown. The area in these Provinces was 3,230,000 acres for 1923 compared with 3,589,000 in 1922. In 1921 the area under rice in these Provinces amounted to roughly about 50 per cent of the total area devoted to rice in Siam.

TABLE 173.—*Rice: Production in undermentioned countries (in terms of cleaned rice).*

NORTHERN HEMISPHERE.

Country.	Average 1909–13.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
United States	660,272	964,972	1,072,389	1,166,250	1,446,278	1,044,778	1,150,139	923,778
Mexico	[1] 98,016		24,787			9,796	44,489	
Hawaii	[2] 25,820			18,254				
CENTRAL AND SOUTH AMERICA AND WEST INDIES.								
Guatemala	[3] 2,208	20,733	16,997	5,180	2,226	2,651	3,882	4,080
Salvador			8,328	8,895				
British Guiana	53,865	108,864	49,616	100,330	55,999	67,072	44,957	
Dutch Guiana	2,254	5,449	3,832	11,623	10,000	12,041	13,202	
Porto Rico	[3] 4,298			3,308				
Trinidad and Tobago								
EUROPE.								
France	2,017					41		
Spain	299,703	322,130	282,581	411,924	393,752	355,967	373,339	330,099
Portugal		22,835	31,656	27,955	32,251	14,650	27,771	
Italy	646,465	716,359	712,412	662,333	614,022	641,375	631,985	680,438
Yugoslavia					3,640	3,414	2,944	
Bulgaria	[4] 8,215	14,513	8,306	5,178	6,776	7,403	7,381	8,290
Russia (northern Caucasia)	1,218							
AFRICA.								
French Guinea					762,084			
French Senegal					56,426			
Sierra Leone				138,270	248,886	241,973	235,059	
Egypt	547,972	487,163	691,966	243,604	282,667	471,903	[5] 40,000	[5] 300,030
Kenya Colony [6]				578	842	464		
ASIA.								
Turkey	[3] [4] 165,846							
India	64,144,192	80,637,760	54,526,080	71,742,720	61,962,880	74,446,400	74,294,080	
Andaman and Nicobar Islands		2,419	2,343	1,283	1,628	2,431	2,780	
French establishments in India	26,268	33,589	32,388	18,758	40,160	26,250	32,378	
British North Borneo		23,280	24,399	12,230		23,587		
Russia (Asiatic)	[4] 334,061							
China		70,218,667			52,788,000			
Japanese Empire:								
Japan	15,787,020	17,142,858	17,184,019	19,106,360	19,849,197	17,335,796	19,066,742	18,302,547
Chosen (Korea)	3,292,776	4,300,128	4,804,729	3,992,354	4,675,374	4,511,834	4,730,531	4,883,142
Formosa (Taiwan)	1,412,504	1,518,569	1,455,232	1,546,663	1,521,250	1,563,330	1,827,711	1,633,609
Kwantung	[1] 1,074	1,563	3,193	2,496	2,911	3,131		
French Indo-China	[7] 7,332,350	6,313,430	6,301,999	6,532,000	6,283,684	7,931,000	7,777,000	[7] 7,000,000
Siam	[8] 5,447,671	[b] 6,823,374	[8] 6,413,745	[8] 6,859,588	[8] 6,658,107	6,225,000	[9] 7,000,000	
Federated Malay States	79,015		92,689	82,605	123,254	118,665	128,168	
Unfederated Malay States					10,138	33,005	33,910	
Straits Settlements								
Philippine Islands	1,165,293	1,745,489	2,213,435	2,088,934	2,247,368	2,504,881	2,681,303	2,702,835
Ceylon	476,536	484,108	449,869	487,914	480,388	493,792	522,706	296,296

[1] Three years only.
[2] One year only.
[3] Two years only.
[4] Old boundaries.
[5] Total production estimated from production reported for the summer or main crop which amounted to 266,012,000 pounds in 1923, compared with 33,409,000 in 1922.
[6] Cultivated by natives only.
[7] Total production estimated from production reported for Annam, Cochin-China, and the first crop in Tonking as 4,735,696,000 pounds, compared with 5,179,342,000 pounds in 1922. This amounted approximately to 70 per cent of the total 1922 crop.
[8] Production estimated from official average yields for different grades of land as classified for revenue purposes according to fertility. These production figures are probably a little too high as the area cultivated is always greater than that actually harvested.
[9] Total production estimated from that reported for Bisnuloke and the six inner provinces where rice for export is chiefly grown. These produced 3,286,974,000 pounds in 1923, compared with 3,271,114,000 pounds in 1922. This appears to be roughly about 50 per cent of the total rice production of Siam.

TABLE 173.—*Rice: Production in undermentioned countries (in terms of cleaned rice)*—Continued.

SOUTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24, preliminary.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Peru	83,700	92,679	79,441	68,640	----------	68,343	----------	----------
Brazil	[2] 89,798	----------	----------	1,131,552	1,308,433	1,003,436	----------	----------
Argentina	[2] 8,302	----------	28,578	----------	----------	----------	----------	----------
Belgian Congo	----------	3,674	2,974	2,787	3,157	3,463	----------	----------
Nyasaland	1,191	1,210	----------	212	872	548	----------	----------
Madagascar	[1] 896,300	867,032	953,973	----------	----------	1,014,942	----------	----------
Java and Madura:								
Irrigated	7,180,998	8,323,123	8,433,155	9,178,654	7,716,400	6,942,768	----------	----------
Non-irrigated	----------	570,165	544,951	619,426	631,024	418,133	----------	----------
Total Java and Madura	7,180,998	8,893,288	8,978,106	9,798,080	8,347,424	7,360,901	6,450,586	6,904,438
Australia	[2] 19	6	31	8	3	2	----------	----------
Fiji Islands	[1] 23,377	11,274	10,055	----------	7,909	4,728	8,520	----------
Total comparable with 1909–13	110,300,614	----------	----------	----------	----------	----------	----------	----------
Total comparable with 1923	38,812,312	42,923,740	44,172,040	46,046,774	46,150,406	44,285,611	45,263,305	43,969,552

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Three years only. [2] One year only. [3] Two years only.

TABLE 174.—*Rice: World production, 1900–1922 (in terms of cleaned rice).*

Years.	Production for countries reporting all years, 1900–1922.[1]	Production as reported.	Estimated world totals exclusive of China.	Production in the chief producing countries.[2]		
				India.	Japan.	Java and Madura.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1900–1901	68,240,828	68,456,675	79,000,000	46,312,750	13,026,905	6,570,318
1901–2	65,336,796	65,363,899	77,000,000	43,040,939	14,738,427	5,680,809
1902–3	71,319,301	74,174,773	85,000,000	52,582,298	11,602,474	5,372,666
1903–4	72,177,655	75,548,201	87,000,000	49,199,438	14,599,842	6,229,076
1904–5	75,101,790	79,117,049	90,000,000	50,227,520	16,157,087	6,430,781
1905–6	67,519,575	72,528,630	84,000,000	48,511,680	10,421,342	6,267,897
1906–7	71,298,387	75,988,426	87,000,000	47,906,880	14,546,194	6,630,068
1907–8	67,040,878	72,523,092	84,000,000	42,598,080	15,409,976	6,532,935
1908–9	69,553,467	74,895,930	87,000,000	43,877,120	16,315,318	6,902,969
1909–10	90,793,800	99,328,460	108,000,000	63,869,120	16,473,579	7,065,690
1910–11	88,487,400	99,935,172	108,000,000	64,552,320	14,650,132	7,084,033
1911–12	90,161,338	103,527,182	111,000,000	63,943,040	16,245,745	7,616,958
1912–13	88,972,299	109,162,633	111,000,000	63,801,920	15,777,677	7,187,265
1913–14	90,948,842	113,686,716	115,000,000	64,554,560	15,787,069	7,951,044
1914–15	89,373,481	114,376,495	116,000,000	61,109,440	17,908,918	7,826,026
1915–16	101,439,746	124,876,819	126,000,000	73,315,200	17,569,018	7,963,749
1916–17	107,298,131	129,146,272	131,000,000	78,520,960	18,359,997	7,911,997
1917–18	109,236,413	[3] 201,777,415	134,000,000	80,637,760	17,142,858	[4] 8,893,288
1918–19	83,142,262	106,431,570	109,000,000	54,526,080	17,184,019	[4] 8,978,106
1919–20	103,279,803	126,278,366	128,000,000	71,742,720	19,106,360	[4] 9,798,080
1920–21	92,698,525	[3] 170,217,972	118,000,000	61,962,880	19,849,197	[4] 8,347,424
1921–22	101,715,810	127,576,151	129,000,000	74,446,400	17,335,796	[4] 7,360,901
1922–23	102,657,645	127,097,797	131,000,000	74,294,080	19,066,742	6,450,586

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The figures for each year include the crop harvested in the Northern Hemisphere within the calendar year and the following harvest in the Southern Hemisphere.

[1] India, Japan, Java and Madura, Formosa, Dutch Guiana, Spain, and Italy.

[2] China would rank among the three chief rice producing countries, but owing to lack of official statistics has been omitted.

[3] Large increase due to the fact that an estimate was available for China, i. e., 52,788,000,000 pounds in 1920 and 70,218,667,000 in 1917.

[4] Includes non-irrigated rice, for which statistics were first given in 1917.

TABLE 175.—*Rice: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Brazil	24,753	[1] 102	14	296,758	16	124,790	.....	83,477
British India	278,272	5,337,516	176,082	2,390,397	280,334	2,740,866	302,760	4,836,325
Chosen (Korea)	[2] 17,830	[2] 130,446	[2] 17,882	[2] 526,015	[2] 5,919	[2] 906,407	[2] 54,919	[2] 827,989
French Indo-China	41	2,288,040	[2] 643	2,604,906	.....	[2] 3,393,428	.....	[2] 2,382,823
Italy	4,415	142,239	3	1,325	17,511	55,490	1,484	230,017
Siam	.....	1,928,507	5	621,398	186	2,799,953	21	2,810,004
Spain	5,467	18,063	7	119,323	15	145,831	86	53,756
United States	209,814	16,215	131,647	392,613	76,237	600,059	62,371	411,542
PRINCIPAL IMPORTING COUNTRIES.								
Austria	.....	.....	28,912	483	55,616	309	[2] 47,068	[2] 1,220
Austria-Hungary	183,411	461	116,777	6,227	166,289	60,069	69,324	10,487
Belgium	180,830	99,948	[1] 153,262	[2] 396,543	1,008,640	470,360	[2] 1,082,177	[2] 937,127
British Malaya	[2] 1,999,672	[2] 1,296,475	52,623	4,891	38,174	1,997	41,403	335
Canada	32,109	2,354	678,555	.....	719,017	(5)	850,981	9
Ceylon	704,992	.....	153,567	41,578	874,835	2,857	1,576,640	3,713
China	262,207	.....	482,279	.....	.....	.....	.....	.....
Cuba	.....	.....	[2] 53,371	[2] 271	116,213	107	90,352	124
Czechoslovakia	.....	.....	491,783	4,066	1,685,518	4,961	[6] 883,593	[6] 43,285
Dutch East Indies	1,178,111	132,400	272	10,067	59,923	43,977	[2] 86,511	[2] 38,375
Egypt	98,680	53,700	197,119	36,991	383,746	62,804	372,002	71,558
France	517,861	79,087	280,041	2,207	[2] 688,588	[2] 65,800	417,858	33,399
Germany	913,772	396,628	.....	.....	.....	.....	2,614,836	2,316,167
Hongkong	.....	.....	[2] 5,921	.....	[2] 30,000	.....	[2] 26,515	[2] 336
Hungary	.....	.....	157,028	25,682	531,793	31,414	[2] 1,006,591	[2] 13,425
Japan	655,676	61,936	142,047	.....	101,044	.....	145,635	.....
Mauritius	132,543	[6] 1,446	49,618	2,490	189,948	27,889	162,152	29,249
Netherlands	778,682	476,276	170,491	69	131,235	715	93,243	892
Philippine Islands	412,781	[7] 4	[2] 2,219	.....	[2] 32,385	.....	[2] 52,327	.....
Russia	250,461	5,746	422,231	32,263	759,058	18,606	77,345	19,041
United Kingdom	768,853	90,564	917,117	136,490	1,066,177	101,457	846,338	124,253
Other countries	1,007,053	159,692						
Total	11,439,950	12,720,845	5,881,516	7,653,653	9,018,417	11,660,206	11,564,532	15,278,928

Division of Statistical and Historical Research. Official sources except where otherwise noted.

Mostly cleaned rice. Under rice is included paddy, unhulled, rough, cleaned, polished, broken, and cargo rice, in addition to rice flour and meal. Rice bran is not included. Rough rice, or paddy, where specifically reported, has been reduced to terms of cleaned rice at ratio of 162 pounds of rough or unhulled to 100 pounds of cleaned. "Rice, other than whole or cleaned rice," in the returns of United Kingdom is not considered paddy, since the chief sources of supply indicate that it is practically all hulled rice. Cargo rice, a mixture of hulled and unhulled, is included without being reduced to terms of cleaned. Broken rice and rice flour and meal are taken without being reduced to terms of whole cleaned rice.

[1] Three-year average.
[2] International Institute of Agriculture.
[3] Less than 500 pounds.
[4] Java and Madura only.
[5] Eight months, May–December.
[6] Two-year average.
[7] One year only.

TABLE 176.—*Rice, rough: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
S. C	106	91	75	75	93	90	85	92	90	90	195	195	300	290	179	97	115	120	30.00
Ga	109	87	75	77	90	83	82	89	88	87	195	175	275	225	162	92	117	132	29.96
Fla	92	80	72	75	90	60	75	70	75	75	195	140	263	175	142	97	130	135	31.05
Miss	83	80	70	77	90	70	77	85	88	80	190	150	190	200	140	118	110	115	20.70
La	78	79	67	79	93	84	80	93	90	90	190	195	271	110	148	86	89	107	35.31
Tex	83	78	68	80	94	86	81	92	89	86	200	197	280	125	153	101	90	115	46.00
Ark	92	90	70	82	94	90	85	90	95	96	190	180	240	131	146	92	88	112	44.24
Calif	.....	.....	65	75	91	100	.....	100	90	78	175	190	267	121	146	115	110	112	57.79
U. S	81.2	79.4	67.8	79.7	93.5	85.8	81.2	92.4	90.6	88.9	189.6	191.8	266.6	119.1	148.4	95.2	93.1	110.3	41.13

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 177.—*Rice: Wholesale price per 162 pounds, 1900–1923.*

LAKE CHARLES (ROUGH).

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1900–1901						$2.48	$2.48					
1901–2		$2.75	$2.75	$2.75	$2.50	2.38	2.38					
1902–3		2.70	2.58	2.60	2.52	2.58	2.58	$2.58				
1903–4		2.80	2.68	2.42	2.25	2.25	2.12	1.88	$1.75	$1.62	$1.62	$1.62
1904–5	$1.62	1.62	1.55	1.55	1.50	1.50	1.50	1.68	1.62	1.75	1.75	1.75
1905–6	2.12	2.62	2.62	2.88	2.92	3.05	3.05	3.05				
1906–7	3.18	3.18	3.05	2.88	2.62	2.75	2.75	2.88	2.38			
1907–8		2.98	3.22	3.25	2.95	3.00	3.12	3.29				
1908–9	3.00	2.80	2.75	2.92	2.58	2.75	2.82	2.94	2.92	2.70	2.38	
1909–10		2.38	2.75	2.50	2.40	2.50	2.50	2.30	2.10	2.05	2.18	2.12
1910–11	2.22	2.42	2.28	2.45	2.25	2.25	2.18	2.18	2.25	2.25		
1911–12	2.45	2.45	2.58	2.62	2.82							
1912–13						3.16	3.10					
1913–14		2.65	2.98	2.88	2.82	2.90	2.40	2.50	2.75	3.02	3.22	3.28
1914–15	3.78	4.02	3.50	3.00	2.78	3.48	3.75	3.81				
1915–16	3.26	3.26	3.08	3.41	3.32	3.00	3.28	3.32	3.51	3.64	4.00	
1916–17		2.99	3.02	3.50	3.42	3.05	3.38	3.72	4.90	5.55		5.75
1917–18	6.09	6.00	6.72	6.52	6.27							
1918–19						7.00	6.75		6.50	6.50	6.75	7.50
1919–20	13.00	11.00										
1920–21							2.00	1.75	1.50	2.50	2.00	2.50
1921–22	2.75	4.00	4.25	2.75	3.50	3.05	3.50	3.90	4.00	3.75	3.85	4.00
1922–23	4.25	3.30	3.30	3.25	3.25	3.25	3.20	3.50	3.40	3.10	3.40	3.35
1923–24	3.50	4.21	4.00	4.00	3.90							

Division of Statistical and Historical Research.

TABLE 178.—*Rice: Wholesale price per pound, 1900–1923.*

NEW YORK (DOMESTIC, FANCY HEAD).

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1900–1901	4.8	4.8	4.8	4.9	5.0	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9
1901–2	5.0	5.0	5.0	4.9	4.8	4.8	4.8	4.8	4.8	4.9	5.1	5.1	4.9
1902–3	4.9	4.9	4.9	4.9	5.0	4.9	5.0	5.2	5.2	5.2	5.2	5.2	5.0
1903–4	5.2	5.0	4.7	4.4	4.2	4.2	4.0	4.0	4.0	3.9	3.7	3.6	4.2
1904–5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.6	3.8	3.5
1905–6	3.8	3.9	4.1	4.1	4.5	5.1	5.1	5.0	4.9	4.9	5.1	5.4	4.7
1906–7	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.1	5.2	5.4	5.6	5.9	5.3
1907–8	5.9	5.9	5.6	5.4	5.1	5.1	5.4	5.7	5.8	5.8	6.1	6.2	5.7
1908–9	6.4	5.9	5.4	5.1	5.1	5.2	5.6	5.8	5.8	5.8	5.8	5.6	5.6
1909–10	5.9	5.2	5.1	4.9	4.8	5.0	4.8	4.6	4.1	4.4	4.4	4.4	4.8
1910–11	4.4	4.6	4.4	4.1	4.1	4.2	4.0	3.9	3.8	3.8	3.7	3.8	4.1
1911–12	3.9	4.2	4.3	4.2	4.2	4.4	4.7	4.9	4.9	5.1	5.1	5.1	4.6
1912–13	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0	4.9
1913–14	5.1	5.1	5.1	5.1	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0
Av. 1909–1913	4.9	4.8	4.8	4.6	4.6	4.7	4.7	4.6	4.5	4.6	4.6	4.6	4.7
1914–15	5.3	5.7	5.6	5.6	5.4	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4
1915–16	5.2	4.9	4.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
1916–17	5.2	5.2	5.2	5.2	5.4	5.4	5.4	5.6	7.1	8.8	8.6	8.4	6.3
1917–18	7.9	7.8	8.2	9.0	8.9	8.9	8.9	9.4	9.6	9.9	10.0	10.1	9.0
1918–19	10.1	10.1	10.2	10.5	10.5	10.4	10.4	10.4	10.4	10.7	11.7	13.7	10.8
1919–20	14.3	14.1	13.6	13.8	14.2	14.8	14.8	14.8	14.8	14.8	14.8	14.4	14.4
1920–21	14.0	13.2	11.1	7.4	8.5	7.5	6.9	6.9	6.5	6.1	6.5	6.5	8.4
Av. 1914–1920	8.9	8.7	8.4	8.1	8.3	8.2	8.1	8.2	8.4	8.7	8.9	9.1	8.5
1921–22	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.5	7.5	7.1
1922–23	7.5	7.5	7.6	7.4	7.4	7.8	7.8	7.7	7.6	7.9	7.9	7.9	7.7
1923–24	7.9	7.7	7.6	7.6	7.6								

Division of Statistical and Historical Research. Compiled from daily quotations in the New York Journal of Commerce.

TABLE 178.—*Rice: Wholesale price per pound, 1900–1923*—Continued.

NEW ORLEANS (HONDURAS, CLEAN, FANCY).

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1900–1901	5.4	5.2	5.1	5.1	5.1	4.1	4.1	4.4	4.1	4.5	4.4	4.8	4.7
1901–2	4.4	4.3	4.0	3.9	3.9	4.0	4.0	4.0	3.9	3.9	3.8	4.2	4.0
1902–3	3.8	3.8	3.7	3.8	3.8	3.9	4.0	4.1	4.2	4.1	4.2	4.5	4.0
1903–4	4.1	4.0	3.6	3.3	3.1	3.2	3.1	2.9	2.7	2.9	2.8	3.0	3.2
1904–5	3.4	3.0	3.1	3.1	3.2	3.1	2.9	2.9	2.6	2.9	3.6	3.4	3.1
1905–6	3.5	3.7	3.9	3.9	3.6	4.0	3.9	3.8	4.1	3.6	3.9	3.9	3.8
1906–7	4.2	4.0	3.9	3.8	3.8	3.9	3.9	3.5	3.6	3.8	4.1	4.3	3.9
1907–8	4.2	4.2	4.1	3.9	3.9	4.0	4.1	4.2	4.4	4.4	4.2	5.1	4.2
1908–9	4.8	3.9	3.9	3.8	3.8	3.6	4.0	4.1	4.1	4.2	4.0	4.2	4.0
1909–10	4.1	3.6	3.8	3.7	3.7	3.8	3.8	3.4	3.2	3.6	3.5	3.7	3.7
1910–11	3.8	3.6	3.4	3.1	3.2	2.9	3.1	2.9	3.0	2.9	2.9	3.6	3.2
1911–12	3.6	3.5	3.3	3.4	3.4	3.8	3.9	4.0	3.9	4.6	4.2	4.6	3.8
1912–13	4.1	4.1	3.5	3.8	4.1	4.1	4.0	3.9	4.0	4.1	4.1	4.4	4.0
1913–14	4.4	3.8	3.8	3.6	3.7	3.9	3.8	3.7	3.6	3.9	3.8	3.7	3.8
Av. 1909–1913	4.0	3.7	3.6	3.5	3.6	3.7	3.7	3.6	3.5	3.8	3.7	4.0	3.7
1914–15	4.1	4.2	3.6	3.4	3.6	3.9	4.1	4.1	4.0	4.1	4.2	4.2	4.0
1915–16	3.6	3.3	3.8	3.8	3.8	3.5	3.6	3.9	3.8	4.0	4.2	3.9	3.8
1916–17	3.8	3.5	3.8	3.9	3.9	3.9	3.9	4.1	5.2	5.9	6.3	6.3	4.5
1917–18	6.1	6.4	6.7	6.6	6.8	6.8	7.0	7.6	8.2	8.3	8.3	8.4	7.3
1918–19	7.6	7.6	7.5	7.3	7.5	7.8	7.7	8.0	7.9	7.0	9.2	10.1	7.9
1919–20	10.9	12.2	11.8	11.9	12.3	12.7	12.8	12.5	12.3	12.2	12.3	12.5	12.2
1920–21	10.6	9.6	7.9	6.9	6.6	4.6	4.7	5.4	5.3	5.5	5.8	5.6	6.5
Av. 1914–1920	6.7	6.7	6.4	6.3	6.4	6.2	6.3	6.5	6.7	6.7	7.2	7.3	6.6
1921–22	5.7	5.4	5.3	5.4	5.7	5.7	5.7	5.9	6.4	6.4	6.4	6.4	5.9
1922–23	6.6	6.6	6.5	6.5	6.5	6.6	6.6	6.3	6.4	6.4	6.5	6.5	6.5
1923–24	6.5	6.4	6.3	6.3	6.4								

Compiled from the New Orleans Times-Picayune.

HOUSTON (HEAD, CLEANED).

1900–1901						4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
1901–2	4.0	4.0	4.0	4.0	4.0	4.4	4.5	4.8	4.8	4.8	4.8	4.8	4.4
1902–3	4.8	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.2	5.4	5.1
1903–4	5.4	5.5	5.5	4.9	4.5	4.1	4.1	4.0	3.8	3.6	3.6	3.5	4.4
1904–5	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.2	3.4	3.5	3.4
1905–6	3.6	3.8	3.9	4.0	4.2	4.8	4.8	4.8	4.2	4.2	4.5	4.5	4.3
1906–7	4.5	4.5	5.0	5.1	4.6	5.1	5.2	5.2	5.2	5.7	6.0	6.2	5.2
1907–8	6.2	5.7	5.4	5.0	5.0	5.0	5.2	5.2	5.4	5.6	5.7	5.9	5.4
1908–9	5.8	5.5	5.2	5.0	5.0	4.9	5.1	5.1	5.2	5.3	5.5	5.8	5.3
1909–10	5.6	5.4	5.2	4.9	4.9	4.1	4.4	3.9	3.8	4.0	3.9	4.0	4.5
1910–11	5.2	4.1	4.2	3.9	3.5	3.8	3.5	3.2	3.4	3.5	3.4	3.3	3.8
1911–12	4.1	4.1	4.1	4.1	4.1	4.4	4.7	4.8	5.0	5.0	4.8	5.0	4.5
1912–13	5.1	4.9	4.2	4.6	4.9	4.8	4.8	4.8	4.8	4.8	5.0	5.2	4.8
1913–14	5.5	5.2	4.9	4.8	4.7	4.9	4.9	4.8	4.1	4.5	4.4	3.5	4.7
Av. 1909–1913	5.1	4.7	4.5	4.5	4.4	4.4	4.5	4.3	4.2	4.4	4.3	4.2	4.5
1914–15	4.7	4.9	5.0	4.6	4.8	4.6	4.6	4.6	4.7	4.8	4.9	5.0	4.8
1915–16	5.1	5.0	4.9	4.9	4.9	4.2	4.4	4.4	4.2	4.0	4.0	4.0	4.5
1916–17	4.0	4.1	4.5	4.6	4.6	4.9	4.9	5.2	6.5	7.9	7.6	7.5	5.5
1917–18	7.2	7.1	7.8	8.0	8.0								[1] 7.6
1918–19						9.1	9.1	9.1	9.1	9.1	11.1	13.2	[2] 10.0
1919–20	13.9	13.1	10.6	10.5	11.2	12.8	12.5	12.8	12.5	12.0	11.6	11.2	12.0
1920–21	10.0	7.8	6.9	6.2	6.1	4.6	4.2	3.5	3.2	3.4	3.5	3.8	5.3
Av. 1914–1920	[3] 7.3	[3] 7.0	[3] 6.6	[3] 6.5	[3] 6.6	[3] 6.7	[3] 6.6	[3] 6.6	[3] 6.7	[3] 6.9	[3] 7.1	[3] 7.4	7.1
1921–22	4.2	4.6	4.8	4.8	4.4	4.2	4.4	4.5	4.9	4.8	4.5	4.5	4.6
1922–23	4.6	4.5	4.1	4.1	4.1								
1923–24													

Houston Cotton Exchange. Division of Statistical and Historical Research.

[1] Average for 5 months. [2] Average for 7 months. [3] Average for 6 years.

BUCKWHEAT.

TABLE 179.—*Buckwheat: Acreage, production, value, exports, etc., in the United States, 1849–1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Value per acre.	Domestic exports, fiscal year beginning July 1.[2]
	1,000 acres.	*Bush. of 48 lbs.*	*1,000 bush.*	*Cts.*	*1,000 dolls.*	*Dolls.*		*1,000 acres.*	*Bush. of 48 lbs.*	*1,000 bush.*	*Cts.*	*1,000 dolls.*	*Dolls.*	*Bush.*
1849	------	------	*8,957*	------	------	------	1896	853	18.5	15,805	39.3	6,211	7.28	1,677,102
1859	------	------	*17,678*	------	------	------	1897	838	20.6	17,260	42.1	7,259	8.66	1,370,402
1866	1,046	21.8	22,792	67.6	15,413	14.74	1898	811	17.2	13,961	45.0	6,278	7.74	1,533,980
1867	1,238	17.4	21,359	78.7	16,812	13.09	1899	807	16.1	13,001	55.9	7,263	9.00	426,823
1868	1,114	17.8	19,864	78.0	15,490	13.90	1900	795	14.9	11,810	55.8	6,588	8.29	123,540
1869	1,029	16.9	17,431	71.9	12,535	12.18	1901	852	18.4	15,693	56.4	8,857	10.40	719,615
1870	537	18.3	9,842	70.5	6,937	12.92	1902	856	17.9	15,286	59.6	9,110	10.64	117,953
1871	414	20.1	8,329	74.5	6,208	15.00	1903	870	17.5	15,248	60.8	9,277	10.66	31,006
1872	448	18.1	8,134	73.5	5,979	13.35	1904	876	18.6	16,327	62.5	10,208	11.65	316,399
1873	454	17.3	7,838	75.0	5,879	12.95	1905	840	18.8	15,797	58.6	9,261	11.02	696,513
1874	453	17.7	8,017	72.9	5,844	12.90	1906	865	18.2	15,734	59.7	9,386	10.85	199,429
1875	576	17.5	10,082	62.0	6,244	10.86	1907	838	17.7	14,858	70.0	10,397	12.41	116,127
1876	666	14.5	9,669	66.6	6,436	9.66	1908	853	19.4	16,541	75.7	12,518	14.68	186,702
1877	650	15.7	10,177	66.9	6,808	10.47	1909	878	20.5	17,983	70.2	12,628	14.38	158,160
1878	673	18.2	12,247	52.6	6,441	9.57	1910	860	20.5	17,598	66.1	11,638	13.53	223
1879	848	20.7	17,530	60.3	10,575	12.47	1911	833	21.1	17,549	72.6	12,735	15.29	180
1880	823	17.8	14,618	59.4	8,682	10.55	1912	841	22.9	19,249	66.1	12,720	15.12	1,347
1881	839	11.4	9,486	86.5	8,206	9.90	1913	805	17.2	13,833	75.5	10,445	12.98	586
1882	847	13.0	11,019	73.0	8,039	9.49								
1883	857	8.9	7,669	82.2	6,304	7.36	Av. 1909–13.	843	20.5	17,242	69.8	12,033	14.27	32,089
1884	879	12.6	11,116	58.9	6,549	7.45								
1885	914	13.8	12,626	55.9	7,057	7.72	1914	792	21.3	16,881	76.4	12,892	16.28	413,643
1886	918	12.9	11,869	54.5	6,465	7.01	1915	769	19.6	15,056	78.71	1,843	15.40	515,304
1887	911	11.9	10,844	56.5	6,122	6.72	1916	828	14.1	11,662	112.7	13,147	15.88	260,102
1888	913	13.2	12,050	63.3	7,628	8.36	1917	924	17.3	16,022	160.0	25,631	27.74	5,567
1889	837	14.5	12,109	50.5	6,115	7.31	1918	1,027	16.5	16,905	166.5	28,142	27.40	119,516
1890	863	14.7	12,678	57.3	7,264	8.42	1919	700	20.6	14,399	146.1	21,032	30.05	244,785
1891	867	15.0	13,013	57.0	7,423	8.56	1920	701	18.7	13,142	128.3	16,863	24.06	390,437
1892	899	14.1	12,643	52.0	6,573	7.31	Av. 1914–20	820	18.1	14,867	121.5	18,507	22.57	279,765
1893	873	14.7	12,866	58.3	7,503	8.59								
1894	864	15.9	13,721	55.7	7,638	8.84	1921	680	20.9	14,207	81.2	11,540	16.97	[3] 484,769
1895	842	19.9	16,748	45.3	7,583	9.01	1922	764	19.1	14,564	88.5	12,889	16.87	171,547
							1923[3]	747	18.9	13,920	93.3	12,984	17.62	------

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] Compiled from reports of Bureau of Foreign and Domestic Commerce. Including buckwheat flour Jan. 1 to June 30, 1922.
[3] Preliminary.

TABLE 180.—*Buckwheat: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Maine	13	8	9	351	216	207	351	238	197
New Hampshire	1	1	1	21	25	22	18	31	22
Vermont	4	4	4	88	96	72	79	88	72
Massachusetts	1	1	1	18	21	20	22	29	23
Connecticut	2	2	2	35	36	32	49	50	35
New York	193	208	214	4,150	4,368	4,066	3,444	4,368	3,903
New Jersey	8	10	10	168	220	210	168	253	200
Pennsylvania	225	225	227	5,175	4,725	4,880	3,881	3,780	4,441
Delaware	7	8	8	98	153	144	74	122	131
Maryland	9	9	9	171	185	199	145	159	199
Virginia	17	18	18	357	351	347	293	288	330
West Virginia	31	33	33	682	693	660	559	589	634
North Carolina	5	7	8	85	140	176	72	136	190
Ohio	21	25	23	525	500	460	551	400	432
Indiana	6	6	6	114	90	102	114	90	97
Illinois	4	6	6	70	84	90	77	71	91
Michigan	39	62	53	624	868	753	487	694	633
Wisconsin	40	25	28	596	360	392	447	313	349
Minnesota	28	75	49	448	1,050	637	314	840	573
Iowa	5	5	5	75	70	75	60	88	70
Missouri	1	1	1	14	13	13	21	16	15
South Dakota	8	12	9	112	96	126	90	67	108
Nebraska	1	1	1	16	16	18	13	14	15
Kentucky	8	9	9	160	144	162	160	130	162
Tennessee	3	3	3	54	44	57	51	35	62
United States	680	764	737	14,207	14,564	13,920	11,540	12,889	12,984

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 181.—*Buckwheat: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	30.0	28.0	32.5	30.0	29.4	32.0	30.4	29.0	26.0	24.0	21.5	20.0	24.0	27.0	24.5	27.0	27.0	23.0
New Hampshire	21.5	22.0	31.0	27.3	31.0	31.0	28.5	25.0	30.0	20.0	16.0	17.0	18.0	20.0	20.9	21.0	25.0	22.0
Vermont	22.0	22.0	24.0	24.3	30.0	25.0	25.1	28.0	27.0	17.5	20.0	21.0	22.0	21.0	22.4	22.0	24.0	18.0
Massachusetts	18.0	19.3	22.0	21.0	21.0	17.0	20.1	18.5	16.0	16.0	15.0	16.0	20.0	19.0	17.2	18.0	21.0	20.0
Connecticut	18.2	19.5	19.5	19.0	20.5	17.0	19.1	18.5	20.0	19.0	17.3	19.0	18.0	17.0	18.4	17.5	18.0	16.0
New York	21.4	24.0	23.0	21.3	23.8	14.3	21.3	23.0	19.0	12.0	18.0	15.0	22.0	20.0	18.4	21.5	21.0	19.0
New Jersey	20.0	21.8	21.5	20.0	22.0	22.0	21.5	21.0	21.0	19.0	18.0	18.0	18.0	18.0	19.0	21.0	22.0	21.0
Pennsylvania	19.2	19.5	19.5	21.9	24.2	18.5	20.7	20.5	21.0	14.0	18.0	18.0	21.6	18.0	18.7	23.0	21.0	21.5
Delaware	30.0	19.8	20.5	19.0	16.0	17.0	18.5	19.0	18.5	19.0	20.0	20.5	18.0	18.0	19.0	14.0	19.1	18.0
Maryland	18.5	16.6	18.5	20.0	17.5	16.5	17.8	18.5	20.0	19.0	21.0	20.0	23.0	20.0	20.2	18.0	20.6	22.1
Virginia	18.0	18.0	18.0	16.0	21.5	23.1	19.3	19.4	20.0	19.2	21.1	21.0	19.0	21.6	20.2	21.0	19.5	19.8
West Virginia	18.0	22.7	23.0	24.0	24.0	21.0	22.9	21.5	22.0	18.3	20.0	19.5	21.0	19.5	20.3	22.0	21.0	20.0
North Carolina	16.4	19.8	19.0	19.0	17.5	19.3	18.9	19.0	17.5	17.5	20.0	20.0	17.0	20.0	18.7	17.0	20.0	22.0
Ohio	18.5	21.2	18.0	21.0	19.5	18.0	19.5	24.0	23.0	17.7	17.2	16.0	23.2	20.9	20.3	25.0	20.0	20.0
Indiana	17.0	17.3	17.7	18.3	19.0	18.5	18.2	17.5	14.0	18.0	15.0	15.0	16.5	20.0	16.6	19.0	15.0	17.0
Illinois	18.2	18.2	20.0	18.1	22.0	17.0	19.1	17.7	17.0	17.0	19.0	17.8	18.0	18.0	17.8	17.4	14.0	15.0
Michigan	13.5	14.3	15.3	18.0	17.0	15.0	15.9	18.5	14.5	11.0	9.0	10.0	13.8	14.5	13.0	16.0	14.0	14.2
Wisconsin	15.2	12.3	14.0	17.5	17.0	16.5	15.5	17.5	13.0	14.0	12.2	15.9	16.2	16.0	15.0	14.9	14.4	14.0
Minnesota	18.2	15.2	16.0	18.0	21.0	16.5	17.3	17.0	17.5	15.0	14.0	17.0	19.0	16.0	16.5	16.0	14.0	13.0
Iowa	15.5	15.0	14.9	17.5	19.0	14.0	16.1	18.3	13.0	15.0	12.0	15.0	14.0	17.0	14.9	15.0	14.0	15.0
Missouri	20.1	21.0	16.5	10.0	15.0	11.0	14.7	15.5	15.0	14.0	15.0	13.0	15.0	16.0	14.8	14.0	13.0	13.0
South Dakota																14.0	8.0	14.0
Nebraska	18.0	16.0	20.0	16.0	18.0	20.0	18.0	18.5	20.0	17.0	16.0	14.0	16.0	16.0	16.8	16.0	16.0	18.0
Kentucky													13.0	15.0		20.0	16.0	18.0
Tennessee	15.3	15.0	15.0	16.0	18.0	15.0	15.8	22.3	18.0	18.0	17.0	18.0	15.5	16.5	17.9	18.0	14.5	19.0
United States	19.4	20.5	20.5	21.1	22.9	17.2	20.4	21.3	19.6	14.1	17.3	16.5	20.6	18.7	18.3	20.9	19.1	18.9

Division of Crop and Livestock Estimates.

TABLE 182.—*Buckwheat: Condition of crop, first of month, and yield per acre, United States, 1867–1923.*

Calendar year.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1867	98. 2	95. 3	94. 9	17. 4	1897	94. 9	95. 1	90. 8	20. 6
1868	92. 3	95. 1	95. 0	17. 8	1898	87. 2	88. 8	76. 2	17. 2
1869	101. 5	93. 3	93. 1	16. 9	1899	93. 2	75. 2	70. 2	16. 1
1870	94. 4	95. 4	89. 8	18. 3	1900	87. 9	80. 5	72. 8	14. 9
1871	97. 5	90. 7	90. 4	20. 1	1901	91. 1	90. 9	90. 5	18. 4
1872	100. 9	99. 5	95. 1	18. 1	1902	91. 4	86. 4	80. 5	17. 9
1873	95. 9	98. 4	94. 9	17. 3	1903	93. 9	91. 0	83. 0	17. 5
1874	96. 7	91. 8	95. 0	17. 7	1904	92. 8	91. 5	88. 7	18. 6
1875	98. 6	98. 0	97. 0	17. 5	1905	92. 6	91. 8	91. 6	18. 8
1876	97. 3	81. 6	86. 6	14. 5	1906	93. 2	91. 2	84. 9	18. 2
1877	100. 5	98. 0	-------	15. 7	1907	91. 9	77. 4	80. 1	17. 7
1878	98. 2	96. 0	-------	18. 2	1908	89. 4	87. 8	81. 6	19. 4
1879	97. 6	98. 0	-------	20. 7					
1880	94. 2	94. 0	-------	17. 8	1909	86. 4	81. 0	79. 5	20. 5
1881	94. 9	70. 0	-------	11. 4	1910	87. 9	82. 3	81. 7	20. 5
					1911	82. 9	83. 8	81 4	21. 1
1882	90. 0	92. 4	-------	13. 0	1912	88. 4	91. 6	89. 2	22. 9
1883	99. 0	88. 0	63. 6	8. 9	1913	85. 5	75. 4	65. 9	17. 2
1884	96. 0	93. 1	87. 0	12. 6					
1885	94. 0	96. 1	92. 0	13. 8	Av. 1909–1913	86. 2	82. 8	79. 5	20. 4
1886	94. 1	89. 8	86. 5	12. 9					
					1914	88. 8	87. 1	83. 3	21. 3
1887	93. 3	89. 1	76. 6	11. 9	1915	92. 6	88. 6	81. 9	19. 6
1888	92. 5	93. 7	79. 1	13. 2	1916	87. 8	78. 5	66. 9	14. 1
1889	95. 2	92. 1	90. 0	14. 5	1917	92. 2	90. 2	74. 8	17. 3
1890	90. 1	90. 5	90. 7	14. 7	1918	88. 6	83. 3	75. 6	16. 5
1891	97. 3	96. 6	92. 7	15. 0	1919	88. 2	90. 1	88. 0	20. 6
					1920	90. 5	91. 1	85. 6	18. 7
1892	92. 9	89. 0	85. 6	14. 1					
1893	88. 8	77. 5	73. 5	14. 7	Av. 1914–1920	89. 8	87. 0	79. 4	18. 3
1894	82. 3	69. 2	72. 0	15. 9					
1895	85. 2	87. 5	84. 8	19. 9	1921	87. 2	85. 6	87. 4	20. 9
1896	96. 0	93. 2	86. 0	18. 5	1922	89. 7	85. 7	83. 8	19. 1
					1923	82. 7	80. 5	77. 6	18. 9

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 183.—*Buckwheat: Farm price per bushel, first of month, United States, 1908–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Weighted av., crop year.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–9	80. 0	77. 2	77. 1	75. 6	74. 3	74. 2	75. 5	76. 2	78. 8	83. 4	86. 9	82. 9	77. 6
1909–10	76. 9	75. 0	71. 6	70. 1	70. 0	72. 0	70. 6	73. 4	71. 0	73. 7	78. 0	74. 8	72. 4
1910–11	72. 6	71. 3	65. 9	66. 1	65. 8	64. 4	64. 1	65. 3	65. 8	70. 1	72. 4	76. 0	67. 6
1911–12	74. 0	69. 6	73. 0	72. 6	73. 7	73. 6	76. 9	76. 9	79. 9	84. 8	86. 2	83. 6	75. 2
1912–13	76. 6	69. 7	65. 5	66. 1	66. 8	69. 4	67. 0	68. 3	71. 4	70. 8	72. 9	72. 4	68. 4
1913–14	70. 0	74. 1	75. 5	75. 5	76. 6	75. 6	75. 1	76. 9	77. 3	79. 0	85. 5	81. 2	76. 3
Av. 1909–1913	74. 0	71. 9	70. 3	70. 1	70. 6	71. 0	70. 7	72. 2	73. 1	75. 7	79. 0	77. 6	72. 0
1914–15	79. 8	78. 7	78. 0	76. 4	77. 9	83. 7	85. 5	85. 3	84. 6	86. 9	92. 1	89. 2	80. 9
1915–16	81. 4	73. 7	78. 5	78. 7	81. 5	80. 7	83. 2	83. 1	84. 9	87. 0	93. 1	89. 0	81. 1
1916–17	86. 4	90. 4	102. 9	112. 7	117. 2	114. 6	124. 8	128. 3	150. 6	183. 7	209. 2	189. 3	123. 2
1917–18	164. 3	154. 4	154. 2	160. 0	162. 7	161. 9	168. 2	170. 1	176. 0	191. 0	200. 8	192. 7	165. 8
1918–19	190. 3	180. 0	173. 0	166. 5	162. 9	155. 1	148. 4	149. 6	147. 3	165. 6	160. 8	165. 9	166. 5
1919–20	159. 8	162. 0	151. 0	146. 1	150. 7	154. 9	155. 7	163. 1	168. 8	180. 2	202. 7	181. 3	159. 0
1920–21	176. 3	159. 4	131. 0	128. 3	125. 4	118. 7	116. 3	109. 3	115. 9	116. 1	115. 3	119. 7	129. 7
Av. 1914–1920	134. 0	128. 4	124. 1	124. 1	125. 5	124. 7	126. 0	127. 0	132. 6	144. 4	153. 4	146. 7	129. 5
1921–22	114. 4	106. 0	83. 9	81. 2	83. 5	85. 4	85. 8	92. 6	93. 3	97. 5	102. 6	95. 7	90. 3
1922–23	86. 3	84. 1	80. 3	88. 5	89. 5	87. 5	89. 8	95. 4	94. 5	102. 2	102. 4	100. 3	89. 0
1923–24	98. 5	94. 7	93. 6	93. 3	------	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 184.—*Buckwheat: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dols.*
Me.	75	70	68	70	70	56	67	60	70	95	150	150	175	153	122	100	110	95	21.85
N. H.	80	76	62	81	72	66	71	70	81	100	183	200	156	122	130	88	125	100	22.00
Vt.	70	76	70	85	72	80	77	82	82	105	150	160	170	135	126	90	92	100	18.00
Mass.	80	75	85	89	85	80	83	84	95	140	166	196	160	140	140	125	138	115	23.00
Conn.	80	100	83	95	88	95	92	95	98	120	200	210	200	160	154	139	140	110	17.60
N. Y.	76	69	65	73	64	81	70	76	80	122	160	175	145	140	128	83	100	90	18.24
N. J.	75	74	69	75	72	76	73	83	83	108	158	170	150	150	129	100	115	95	19.95
Pa.	75	68	62	69	64	73	67	76	78	111	163	160	140	120	121	75	80	91	19.56
Del.	72	60	65	65	66	69	65	76	75	118	148	143	160	120	120	75	80	91	16.38
Md.	76	74	66	67	71	75	71	81	72	110	165	165	155	133	126	85	86	100	22.10
Va.	72	76	77	70	75	80	76	84	80	95	150	163	155	140	124	82	82	95	18.34
W. Va.	81	76	77	85	75	78	78	83	80	101	170	173	170	140	131	82	85	96	19.20
N. C.	78	80	80	80	85	78	81	83	82	85	130	150	140	110	111	85	97	108	23.76
Ohio.	82	78	75	78	70	76	75	76	77	110	153	156	155	105	119	105	80	94	18.80
Ind.	78	77	70	74	73	75	74	78	80	112	155	160	150	120	122	100	100	95	16.15
Ill.	90	90	90	95	80	80	85	95	90	130	170	180	180	136	140	110	85	101	15.15
Mich.	71	66	62	71	65	70	67	71	72	115	147	170	137	109	117	78	80	84	11.93
Wis.	76	78	75	75	66	69	73	76	83	116	174	165	150	120	126	75	87	89	12.46
Minn.	73	71	72	76	65	64	70	70	75	112	135	170	130	106	114	70	80	90	11.70
Iowa.	78	85	83	90	75	81	83	77	80	125	200	180	169	134	138	80	125	94	14.10
Mo.	85	90	87	105	95	85	92	93	90	133	144	180	184	155	140	150	125	118	15.34
S Dak.																80	70	86	12.04
Nebr.	83	90	90	95	90	79	89	84	95	110	150	165	180	100	126	80	85	85	15.30
Ky.											145			100		100	90	100	18.00
Tenn.	80	79	86	79	78	75	79	78	76	100	150	140	150	130	118	95	80	109	20.71
U. S.	75.7	70.2	66.1	72.6	66.1	75.5	70.1	76.4	78.7	112.7	160.0	166.5	146.1	128.3	124.1	81.2	88.5	93.3	17.62

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 185.—*Buckwheat: Average price per 100 pounds.*

BUFFALO.[1]

Year beginning Oct. 1.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Average.
1914–15	$1.60	$1.55	$1.75	$1.85	$2.21	$2.07	$1.84
1915–16	1.50	1.81	1.81	1.85	1.80	1.70	1.74
1916–17	1.86	2.92	3.15	2.86	3.00	3.03	2.80
1917–18	3.22	3.50	3.52	3.60	3.73	4.50	3.68
1918–19	3.84	3.70	3.32	2.93	2.50	2.35	3.11
1919–20	2.98	2.84	3.16	3.25	3.45	3.47	3.19
1920–21	2.73	2.52	2.51	2.48	2.40	2.60	2.54
Average, 1914–1920	2.53	2.69	2.75	2.69	2.73	2.82	2.70
1921–22	1.75	1.64	1.78	1.94	2.08	2.59	1.96
1922–23	1.79	2.04	2.13	2.05	2.10	2.12	2.04
1923–24	2.20	2.12	2.06				

MINNEAPOLIS.[2]

1922–23	$1.70	$2.12	$2.20	$2.06	$2.07	$2.03	$2.03
1923–24	2.04	2.17	1.98				

Division of Statistical and Historical Research.

[1] From the Weekly Northwestern Miller. Average of weekly quotations. 1922–23 and after from Commercial Bulletin, Buffalo Corn Exchange.

[2] From Minneapolis Daily Market Record. Average of daily quotations.

GRAIN SORGHUMS.[1]

TABLE 186.—*Grain sorghums: Acreage, production, and total farm value, United States, 1915–1923; by States, 1922 and 1923.*

Calendar year, and State.	Thousands of acres.		Average yield in bushels per acre.		Production, thousands of bushels.		Average farm price, Nov 15, cents per bushel.		Farm value, thousands of dollars.	
1915	4,153		27.6		114,460		44.7		51,157	
1916	3,944		13.7		53,858		105.9		57,027	
1917	5,153		11.9		61,409		161.9		99,433	
1918	6,036		12.1		73,241		150.0		109,881	
1919	5,060		25.8		130,734		127.4		166,510	
1920	5,120		26.8		137,408		92.9		127,629	
1921	4,635		24.6		113,990		30.1		44,575	
Leading States.	1922	1923 [2]	1922	1923	1922	1923 [2]	1922	1923	1922	1923 [2]
Total	5,064	5,776	17.9	18.3	90,524	105,619	87.8	94.1	79,503	99,353
Iowa	6	6	24.0	33.0	144	198	55	100	79	198
Missouri	15	13	20.0	21.0	300	273	85	100	255	273
Nebraska	19	26	18.0	25.6	342	666	74	88	253	586
Kansas	1,039	1,598	19.5	17.7	20,260	28,285	74	82	14,992	23,194
Texas	1,970	1,891	20.0	22.0	39,400	41,602	100	105	39,400	43,682
Oklahoma	1,450	1,523	13.5	12.0	19,575	18,276	80	92	15,660	16,814
Colorado	247	336	15.0	20.0	3,705	6,720	70	80	2,594	5,376
New Mexico	158	205	11.0	18.0	1,738	3,690	80	90	1,390	3,321
Arizona	30	35	30.0	34.0	900	1,190	80	100	720	1,190
California	130	143	32.0	33.0	4,160	4,719	100	100	4,160	4,719

Division of Crop and Livestock Estimates.

[1] Kafirs, milo maize, feterita. [2] Preliminary.

TABLE 187.—*Grain sorghums: Condition of crop, first of month, and yield per acre, United States, 1906–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1906	90.2	91.3	92.4	.....	.....	1914	90.0	84.4	84.5	.....	.....
1907	84.8	85.6	83.1	.....	.....	1915	87.1	89.1	90.8	90.5	27.6
1908	85.3	86.5	85.1	.....	.....	1916	85.2	73.1	62.3	65.2	13.7
1909	89.4	85.0	72.8	.....	.....	1917	69.8	58.2	70.8	67.8	11.9
1910	82.7	71.1	79.2	.....	.....	1918	78.7	65.8	50.1	49.0	12.1
1911	64.5	72.9	74.4	.....	.....	1919	91.1	90.4	88.0	86.3	25.8
1912	89.4	85.0	85.4	.....	.....	1920	89.5	87.5	91.0	94.7	26.8
1913	84.7	73.1	57.9	.....	.....	Av. 1914–1920	84.3	78.4	76.8	75.6	19.6
Av. 1906–1913	82.1	77.4	73.9	.....	.....	1921	88.9	88.5	84.6	85.3	24.6
						1922	87.2	79.3	65.5	64.9	17.9
						1923	85.3	74.7	64.6	67.5	18.3

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 188.—*Kafir, No. 2 White: Weighted average price per 100 pounds of reported cash sales, Kansas City, 1909–1923.*

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
1909–10	$1.20	$1.31	$1.53	$1.42	$1.37	$1.32	$1.46	$1.50	$1.53	$1.81	$1.78	$1.19	$1.45
1910–11	1.12	.96	.96	.93	.94	.94	1.06	1.24	1.42	1.34	1.27	1.21	1.12
1911–12	1.06	.99	1.19	(1)	1.29	1.43	1.44	1.25	1.63	1.68	1.36	1.13	1.31
1912–13	.98	.86	.85	.83	.81	.82	.88	1.11	1.09	1.41	1.53	1.51	1.06
1913–14	1.57	1.63	1.72	1.72	1.76	(1)	2.00	(1)	(1)	(1)	(1)	(1)	-------
Av. 1909–1913	1.19	1.15	1.25	------	1.23	------	1.37	------	------	------	------	------	-------
1914–15	1.04	1.14	1.33	1.38	1.28	1.18	1.14	1.20	1.16	1.09	1.04	1.06	1.17
1915–16	.91	.99	.99	.96	.93	1.06	1.05	1.11	1.22	1.58	1.71	1.84	1.19
1916–17	2.34	2.11	2.43	2.48	2.66	3.17	3.79	3.36	4.00	4.48	4.34	3.69	3.24
1917–18	3.40	3.25	3.33	3.69	3.84	3.37	2.93	2.65	3.03	3.40	3.40	3.27	3.28
1918–19	2.96	2.61	2.60	2.70	2.56	2.67	2.97	3.42	3.51	3.61	2.41	2.34	2.86
1919–20	2.67	2.93	2.49	2.17	2.31	2.38	2.65	2.52	2.36	2.43	2.24	1.81	2.41
1920–21	1.39	1.17	.98	.91	.85	.80	1.03	1.12	1.21	1.13	1.13	1.02	1.06
Av. 1914–1920	2.10	2.03	2.02	2.04	2.06	2.09	2.22	2.20	2.36	2.53	2.32	2.15	2.17
1921–22	.85	.90	.90	1.29	1.32	1.20	1.28	1.38	1.66	1.72	1.98	1.83	1.36
1922–23	1.78	1.63	1.59	1.60	1.66	1.72	1.76	1.67	1.50	1.48	(1)	(1)	-------
1923–24	(1)	1.27	------	------	------	------	------	------	------	------	------	------	-------

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and Market Review.

[1] No quotations.

TABLE 189.—*Kafir: Farm price per bushel, 15th of month, United States, 1916–1923.*

Year begining Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1916–17	102.4	101.5	119.1	129.0	147.0	152.0	188.0	208.3	214.0	243.3	187.7	174.1	152.6
1917–18	160.6	166.7	170.8	185.7	193.5	204.0	211.0	179.6	165.6	177.2	181.0	175.9	182.3
1918–19	150.5	154.8	153.7	156.9	150.9	162.1	173.6	174.1	175.9	176.9	153.7	139.7	160.4
1919–20	133.6	144.3	137.3	138.7	129.8	145.4	154.5	153.9	135.2	150.0	124.8	95.5	140.4
1920–21	95.5	81 7	65.6	57.8	67.3	53.8	51.5	62.0	51.0	58.0	54.9	48.3	63.6
1921–22	35.8	33.8	41.4	48.0	60.5	63.2	61.2	63.8	68.7	87.7	77 1	85.6	54.8
1922–23	89.2	89.3	89.0	92.1	98.6	108.2	96.4	100.2	109.8	102.2	94.1	100.8	96.6
1923–24	95.4	------	------	------	------	------	------	------	------	------	------	------	-------

Division of Crop and Livestock Estimates.

TABLE 190.—*Kafir: Monthly and yearly receipts at Kansas City, 1909–1922.*

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Yearly total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	5,940	2,820	7,020	8,400	9,000	2,520	1,800	1,140	660	420	300	200	40,220
1910–11	6,000	16,050	12,550	10,050	4,800	2,900	4,000	3,150	1,700	2,350	1,050	3,450	68,050
1911–12	11,300	18,100	14,291	22,945	10,718	11,088	10,410	6,776	4,189	2,587	3,450	5,790	121,644
1912–13	24,948	36,098	34,188	18,865	6,222	8,439	7,207	12,505	5,051	616	1,848	1,478	157,265
1913–14	1,232	2,957	7,454	4,004	1,417	862	924	862	185	62	493	2,341	22,793
Av., 1909–1913	9,884	15,205	15,101	12,813	6,431	5,162	4,868	4,887	2,357	1,207	1,428	2,652	81,994
1914–15[1]	17,433	40,286	37,022	34,619	10,595	27,227	14,106	10,410	11,519	11,396	6,283	7,269	28,165
1915–16[1]	20,574	62,524	32,088	32,424	35,616	33,376	30,352	33,880	21,504	9,576	5,600	2,016	319,530
1916–17[1]	1,512	5,432	10,780	15,338	4,004	2,526	2,156	493	431	431	308	308	43,719
1917–18[1]	4,928	15,585	25,995	21,560	28,336	18,049	5,482	5,975	2,218	1,602	493	370	130,593
1918–19[1]	2,834	9,117	8,562	9,425	21,498	18,418	21,006	5,298	8,932	3,634	4,866	4,497	118,087
1919–20[1]	1,232	13,059	41,703	40,410	51,519	25,133	30,246	45,769	42,997	13,182	8,932	6,899	321,081
1920–21[1]	6,283	36,652	54,886	25,934	31,847	16,078	16,878	36,036	13,121	16,386	6,714	11,704	272,519
Av., 1914–1920	7,828	26,094	30,148	25,673	26,202	20,115	17,175	19,694	14,389	8,030	4,742	4,723	204,813
1921–22[1]	14,722	19,589	26,365	30,061	21,930	17,494	11,149	11,889	8,378	4,082	1,971	6,714	174,944
1922–23	9,425	24,886	25,670	14,246	10,349	8,467	4,637	3,024	4,234	2,151	1,142	1,075	109,306

Division of Statistical and Historical Research. Compiled from Kansas City Annual Statistical Report, Board of Trade, and Minneapolis Daily Market Record.

[1] Kafir, milo maize, and feterita included from January, 1915–December, 1921.

FRUITS AND VEGETABLES.

APPLES.

TABLE 191.—*Apples: Production in the United States, 1889–1923.*

Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production
	Bushels.		*Bushels.*		*Bushels.*		*Bushels.*
1889	*143, 105, 000*	1898	118, 061, 000	1907	119, 560, 000	1916	193, 905, 000
1890	80, 142, 000	1899	*175, 597, 000*	1908	148, 940, 000	1917	166, 749, 000
1891	198, 907, 000	1900	205, 930, 000	1909	*146, 122, 000*	1918	169, 625, 000
1892	120, 536, 000	1901	135, 500, 000	1910	141, 640, 000	1919	142, 086, 000
1893	114, 773, 000	1902	212, 330, 000	1911	214, 020, 000	1920	223, 677, 000
1894	134, 648, 000	1903	195, 680, 000	1912	235, 220, 000	1921	99, 002, 000
1895	219, 600, 000	1904	233, 630, 000	1913	145, 410, 000	1922	202, 702, 000
1896	232, 600, 000	1905	136, 220, 000	1914	253, 200, 000	1923	196, 770, 000
1897	163, 728, 000	1906	216, 720, 000	1915	230, 011, 000		

Division of Crop and Livestock Estimates. Census figures are in italics.

TABLE 192.—*Apples: Production and farm prices December 1, by States, calendar years, 1919–1923.*

State.	Total crop, thousands of bushels.					Farm price per bushel Dec. 1 (cents).				
	1919	1920	1921	1922	1923 [1]	1919	1920	1921	1922	1923
Maine	4,829	1,680	4,060	1,250	2,360	117	120	115	107	96
New Hampshire	1,364	1,200	700	775	800	160	150	175	135	140
Vermont	960	993	600	960	592	175	150	195	160	170
Massachusetts	3,187	3,575	1,125	3,010	3,015	200	120	240	145	150
Rhode Island	334	390	63	200	450	195	200	250	110	135
Connecticut	1,395	2,375	758	1,300	1,700	170	125	240	120	150
New York	14,350	47,087	13,500	36,000	24,000	200	75	205	81	120
New Jersey	1,666	2,942	667	2,610	2,203	200	120	270	95	140
Pennsylvania	5,513	18,584	2,208	11,400	10,855	225	90	260	96	100
Delaware	606	822	68	1,414	1,200	200	95	220	90	100
Maryland	1,519	2,600	225	1,500	2,300	200	78	195	90	86
Virginia	8,943	13,744	570	8,960	9,800	190	90	255	90	94
West Virginia	4,189	8,040	420	5,625	8,320	180	125	260	102	100
North Carolina	2,000	6,320	593	6,000	2,700	187	105	250	90	140
South Carolina	216	440	293	383	274	280	184	230	140	180
Georgia	417	1,270	698	1,135	864	245	165	200	100	150
Ohio	2,976	13,960	3,390	7,298	12,395	262	115	225	130	106
Indiana	1,190	4,596	1,029	4,148	5,035	267	143	230	123	115
Illinois	4,673	5,866	2,381	9,720	7,370	230	140	250	105	115
Michigan	5,844	16,500	6,317	11,850	13,159	220	77	195	88	85
Wisconsin	1,545	2,250	1,050	2,024	2,340	220	170	242	118	115
Minnesota	1,336	1,350	900	1,020	1,520	250	200	260	200	130
Iowa	1,810	4,410	630	4,410	3,750	275	191	274	117	118
Missouri	5,132	4,724	480	9,400	7,072	190	170	255	82	92
South Dakota	168	180	126	263	212	300	260	280	170	177
Nebraska	907	797	125	1,620	880	250	230	270	120	145
Kansas	1,835	1,144	172	3,280	2,166	210	220	250	100	120
Kentucky	1,281	5,022	636	5,070	2,625	250	160	250	130	140
Tennessee	1,259	4,280	754	4,250	1,311	225	142	245	116	150
Alabama	577	1,186	890	1,098	731	250	175	200	145	170
Mississippi	218	190	145	216	120	235	190	240	170	158
Louisiana	44	34	35	37	31	200	200	200	225	200
Texas	457	274	274	264	270	190	200	190	150	155
Oklahoma	1,600	585	486	1,140	1,240	175	230	210	135	120
Arkansas	7,164	3,900	120	2,400	3,025	170	140	200	102	110
Montana	850	825	975	610	990	175	180	150	100	130
Wyoming	30	18	19	40	35	350	200	250	200	180
Colorado	3,418	2,830	3,200	4,250	3,010	185	140	170	75	95
New Mexico	1,100	434	483	750	1,400	200	180	200	130	180
Arizona	125	80	47	77	128	225	250	250	205	180
Utah	760	1,064	1,037	1,085	1,119	170	120	130	80	78
Nevada	53	36	24	35	56	300	275	260	160	140
Idaho	3,800	3,420	4,500	3,900	5,600	180	145	130	72	75
Washington	25,295	21,502	29,062	25,775	31,357	155	140	125	100	77
Oregon	6,921	4,158	6,667	6,300	8,000	140	125	115	95	85
California	8,200	6,000	6,500	7,850	8,450	145	160	135	90	75
United States	142,086	223,677	99,002	202,702	196,770	183.6	114.8	168.0	98.6	102.2

Division of Crop and Livestock Estimates.

[1] Preliminary.

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TABLE 193.—*Apples (commercial crop): Production, by States, calendar years, 1919–1923.*

State.	1919	1920	1921	1922	1923 [1]	State.	1919	1920	1921	1922	1923 [1]
	1,000 barrels.	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*		*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*
Me.	675	230	657	232	425	Iowa	211	420	25	220	188
N. H.	187	170	130	119	120	Mo.	1,010	924	80	1,250	850
Vt.	208	190	116	128	89	S. Dak.	3	5	0	4	3
Mass.	335	375	172	461	300	Nebr.	180	110	17	130	103
R. I.	65	75	8	20	50	Kans.	450	286	29	546	400
Conn.	119	215	70	108	150	Ky.	57	218	31	169	70
N. Y.	2,975	6,600	3,300	6,000	3,900	Tenn.	68	204	45	95	30
N. J.	476	348	132	552	470	Ala.	9	20	15	18	12
Pa.	750	1,547	231	1,216	1,266	Tex.	37	21	21	15	15
Del.	155	219	14	380	340	Okla.	43	29	21	38	42
Md.	177	399	20	230	460	Ark.	1,100	724	18	520	656
Va.	1,653	1,988	80	1,400	1,850	Mont.	140	128	175	115	123
W. Va.	648	1,340	130	881	1,350	Colo.	828	736	312	1,094	803
N. C.	92	250	25	236	160	N. Mex.	264	108	123	150	315
Ga.	35	106	58	95	60	Ariz.	15	10	6	9	14
Ohio	280	1,445	360	608	1,083	Utah	121	196	198	198	260
Ind.	137	542	109	277	300	Idaho	1,008	756	1,359	1,180	1,600
Ill.	712	1,389	397	1,450	1,351	Wash.	7,167	5,734	8,300	7,341	9,198
Mich.	1,050	3,167	1,208	1,699	2,118	Oreg.	1,357	832	1,667	1,260	1,750
Wis.	168	161	64	101	136	Calif.	1,200	1,280	1,352	1,399	1,732
Minn.	61	78	64	41	51	United States	26,159	33,905	21,557	31,945	34,303

Division of Crop and Livestock Estimates. Included in "Apples" (preceding table).
By commercial crop is meant that portion of the total crop which is sold for consumption as fresh fruit. One barrel is equivalent to three boxes.

[1] Preliminary.

TABLE 194.—*Apples: Condition of crop, first of month, United States, 1866–1923.*

Calendar year.	June.	July.	Aug.	Sept.	Oct.	Per cent of a full crop.	Calendar year.	June.	July.	Aug.	Sept.	Oct.	Per cent of a full crop.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1866	98.9	92.8	.....	.....	.....	89.1	1896	71.0	64.6	65.7	67.0	66.7	65.5
1867	120.7	108.2	100.0	100.5	.....	97.2	1897	74.8	66.8	60.3	56.9	57.2	58.3
1868	99.4	94.6	89.9	71.8	.....	80.1	1898	73.0	57.5	46.8	42.0	36.6	35.6
1869	105.8	101.9	96.6	94.7	.....	101.9	1899	75.2	58.7	56.8	52.0	46.4	44.2
1870	87.3	88.1	83.9	89.3	.....	86.8	1900	83.4	75.4	71.0	67.8	61.2	56.3
1871	87.1	81.2	80.4	82.1	.....	82.6	1901	80.3	65.7	45.8	44.9	46.4	44.0
1872	105.6	102.1	100.2	101.6	.....	109.7	1902	67.9	62.3	59.3	61.6	63.8	61.3
1873	84.5	72.3	64.0	62.7	.....	57.9	1903	62.6	56.5	54.3	56.2	56.4	53.0
1874	109.6	91.4	85.4	78.0	.....	86.9	1904	79.5	71.5	63.8	64.7	65.4	64.2
1875	67.2	61.2	56.6	59.6	.....	58.4	1905	70.6	61.1	53.4	50.3	50.0	41.1
1876	95.0	93.5	88.4	92.4	.....	107.0	1906	76.6	70.5	68.2	70.6	69.2	69.1
1877	84.4	76.2	73.7	73.5	.....	.....	1907	50.1	44.0	39.4	34.7	33.8	32.1
1878	87.1	84.7	79.7	78.4	.....	.....	1908	66.0	57.6	52.2	52.1	48.4	43.4
1879	71.7	66.8	.....	55.6	.....	.....	1909	61.4	54.6	46.3	44.5	43.0	52.5
1880	93.6	94.7	95.4	94.8	.....	.....	1910	53.0	49.6	47.8	46.8	46.4	43.5
1881	86.2	73.0	65.7	58.6	.....	.....	1911	68.5	57.9	53.9	56.2	59.8	62.4
1882	86.0	88.3	77.7	75.9	.....	74.5	1912	72.3	67.9	65.8	67.9	67.8	69.9
1883	78.5	70.2	58.2	52.5	.....	52.8	1913	67.1	59.4	52.2	47.7	46.6	44.6
1884	93.2	83.6	79.7	78.9	.....	78.5	Av. 1909-1913	64.5	57.9	53.2	52.6	52.9	52.6
1885	88.4	77.8	73.0	70.7	.....	73.0	1914	73.7	64.2	61.3	61.9	69.1	72.8
1886	89.2	83.8	79.0	75.9	.....	67.7	1915	70.1	63.3	61.5	62.7	63.0	65.6
1887	73.7	63.4	58.0	50.9	.....	47.8	1916	76.0	68.1	62.3	58.7	57.2	57.5
1888	87.4	84.0	81.3	80.7	.....	80.7	1917	73.9	64.0	55.4	51.1	50.7	50.4
1889	82.7	76.7	74.6	68.5	.....	67.0	1918	69.8	59.7	55.9	54.3	54.7	54.2
1890	76.3	60.8	48.1	40.7	.....	42.2	1919	67.8	58.6	52.2	51.0	52.1	48.1
1891	84.4	81.0	76.8	77.2	.....	77.3	1920	79.3	70.7	70.4	72.4	74.7	77.3
1892	83.2	65.2	55.4	48.9	.....	45.3	Av. 1914-1920	72.9	63.8	59.9	58.9	60.2	60.8
1893	68.8	56.9	46.2	42.0	.....	38.6	1921	42.2	35.3	34.8	34.5	35.0	33.0
1894	60.7	47.6	44.0	40.8	.....	41.7	1922	72.7	60.8	67.4	68.2	67.6	68.5
1895	76.0	70.2	71.2	72.8	70.6	71.1	1923	75.5	67.0	63.8	63.6	64.2	65.6

Division of Crop and Livestock Estimates.

TABLE 195.—*Apples: Percentage reduction from full yield, from stated causes, as reported by crop correspondents, 1912–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods	Frost and freeze.	Hail.	Hot winds.	Storms	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1912	2.5	0.9	0.3	10.2	0.7	0.3	0.9	16.9	4.2	3.1	0.1	32.4
1913	10.3	.4	.4	25.3	.6	.9	.6	39.9	1.0	5.2	(2)	53.5
1914	6.5	.3	(2)	6.4	.6	.4	.6	15.1	.8	5.0	.1	28.2
1915	1.2	1.9	.2	15.8	.9	.1	1.2	21.8	5.2	3.0	.1	35.4
1916	5.4	3.2	.2	9.9	.9	.6	1.4	22.8	5.6	3.0	.1	38.6
1917	4.1	3.9	.1	15.2	1.1	.3	1.1	27.0	4.7	2.8	.1	44.2
1918	7.5	.7	.2	19.1	.8	1.0	.7	30.7	4.2	2.9	.2	44.9
1919	4.3	2.9	.1	29.1	.6	.5	1.0	39.1	5.1	2.7	.1	52.7
1920	2.2	.8	.2	10.2	.8	.2	.7	16.5	4.4	1.9	.1	25.9
1921	5.0	.7	------	40.0	.6	.3	.6	57.7	3.0	1.9	.1	65.1
1922	4.1	1.3	------	13.4	.8	.4	.7	21.3	4.8	2.4	.1	28.6

Division of Crop and Livestock Estimates.

[1] Includes all other causes. [2] Less than 0.05 per cent.

TABLE 196.—*Apples: Carlot shipments, by States of origin, 1917–1922.*

State.	Year beginning June 1.					
	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
WESTERN AREA.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
Montana	171	262	500	430	686	351
Colorado	2,084	1,984	3,225	2,861	3,886	3,385
New Mexico	636	467	959	279	615	438
Utah	355	441	499	619	735	718
Idaho	3,528	536	3,943	2,881	5,811	4,222
Washington	15,837	16,232	27,169	21,627	32,961	28,295
Oregon	3,448	2,246	5,443	3,170	6,543	3,893
California	1,030	3,473	4,153	4,303	5,055	4,966
Total	27,669	25,581	45,691	36,370	56,292	46,268
EASTERN AREA.						
Maine	1,248	257	2,343	414	4,306	278
New Hampshire	276	120	507	249	321	187
Massachusetts	358	252	407	627	159	236
New York	5,867	22,900	10,286	33,960	17,735	29,966
New Jersey	1,001	936	737	856	179	447
Pennsylvania	913	1,794	1,266	3,402	226	2,038
Delaware	349	375	498	751	126	1,751
Maryland, Eastern Shore	[1] 436	29	36	139	46	418
Maryland, other	(3)	685	564	1,498	92	700
Virginia	4,539	4,227	7,075	8,762	323	6,975
West Virginia	1,280	2,919	2,849	4,880	801	2,242
Ohio	274	448	255	976	615	424
Illinois	5,554	2,676	2,935	3,471	445	4,810
Michigan	1,385	2,862	3,435	6,212	5,992	6,015
Missouri	2,600	1,167	2,155	1,725	(3)	3,079
Kansas	1,131	398	535	738	62	1,083
Arkansas	1,545	1,065	4,553	2,666	(3)	2,620
All other	1,931	929	1,008	1,684	594	2,644
Total	30,737	44,049	41,444	72,910	32,022	65,999
Total, United States	58,406	69,630	87,035	109,280	88,314	112,267

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] Includes Maryland "other." [2] Included in Maryland Eastern Shore. [3] Included in all other.

TABLE 197.—*Apples: Monthly carlot shipments, by States, 1917–1923.*

State, and crop movement season.[1]	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	Total
New York:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917–18	------	------	19	397	1,339	1,149	439	444	693	685	470	186	46	5,867
1918–19	------	8	486	2,026	7,662	4,199	2,388	2,215	1,951	1,130	564	228	43	22,900
1919–20	------	23	160	978	3,195	1,171	829	632	992	1,218	576	447	56	10,286
1920–21	------	4	747	2,488	9,125	7,996	3,376	2,600	3,254	2,655	1,074	449	[2] 92	33,860
1921–22	------	98	970	3,064	5,855	1,206	839	1,090	1,485	1,472	970	563	123	17,735
1922–23	------	68	1,360	3,502	7,988	5,711	1,968	2,193	2,241	2,399	1,482	888	166	29,966
1923–24	------	5	280	1,572	4,159	3,099	1,146	------	------	------	------	------	------	------
Pennsylvania:														
1917–18	------	------	12	36	526	145	62	28	42	18	39	5	------	913
1918–19	------	25	39	253	839	247	124	143	73	45	6	------	------	1,794
1919–20	------	2	14	170	690	121	76	93	62	21	3	5	------	1,266
1920–21	------	27	27	190	1,379	674	382	299	262	151	10	1	------	3,402
1921–22	------	------	1	67	109	9	7	7	15	9	2	------	------	226
1922–23	------	19	23	270	840	372	220	177	71	21	17	8	------	2,038
1923–24	------	20	39	350	1,398	892	276	------	------	------	------	------	------	------
Virginia:														
1917–18	6	36	115	1,091	1,887	548	131	131	250	211	156	27	------	4,589
1918–19	------	20	100	867	1,569	740	235	283	171	83	92	49	9	4,227
1919–20	------	43	238	1,933	2,732	592	394	313	336	308	114	72	------	7,075
1920–21	------	46	102	1,523	3,143	1,275	811	680	468	354	219	116	25	8,762
1921–22	------	------	9	126	87	17	34	16	10	16	8	------	------	323
1922–23	5	32	300	1,741	2,349	1,139	465	342	133	94	98	160	117	6,975
1923–24	------	49	131	1,887	3,610	1,385	740	------	------	------	------	------	------	------
West Virginia:														
1917–18	------	9	24	231	478	223	98	37	87	66	27	------	------	1,280
1918–19	------	23	71	504	1,254	718	202	78	34	32	------	3	------	2,919
1919–20	------	23	90	620	1,267	365	160	95	82	71	61	15	------	2,849
1920–21	------	63	75	744	2,269	874	209	179	118	116	109	84	10	4,880
1921–22	------	4	18	412	176	19	27	15	42	59	27	2	------	801
1922–23	10	28	75	451	1,005	310	141	84	37	36	38	27	------	2,242
1923–24	------	78	120	1,020	3,064	1,477	301	------	------	------	------	------	------	------
Illinois:														
1917–18	12	353	140	1,242	3,001	664	3	12	49	33	37	8	------	5,554
1918–19	24	244	81	518	1,210	219	46	66	100	69	46	39	[3] 14	2,676
1919–20	36	340	79	807	1,142	131	11	73	90	111	47	55	13	2,935
1920–21	50	528	217	789	1,268	296	34	45	28	113	69	26	8	3,471
1921–22	35	24	51	114	94	8	9	33	46	12	7	12	------	445
1922–23	312	526	253	1,204	1,557	492	58	65	85	88	61	48	1	4,840
1923–24	22	429	145	1,043	2,125	554	66	------	------	------	------	------	------	------
Michigan:														
1917–18	------	------	127	271	432	511	23	6	5	10	------	------	------	1,385
1918–19	------	88	414	480	1,532	307	27	5	4	4	1	------	------	2,862
1919–20	------	12	608	1,040	1,587	175	7	2	------	1	1	2	------	3,435
1920–21	------	55	1,152	1,188	2,102	1,300	175	51	92	70	26	1	------	6,212
1921–22	------	516	1,219	1,772	2,327	112	15	12	11	7	1	------	------	5,992
1922–23	------	307	913	997	2,717	854	95	42	33	35	20	2	------	6,015
1923–24	------	30	1,189	1,334	3,432	1,719	178	------	------	------	------	------	------	------
Washington:														
1917–18	------	------	56	409	5,280	4,582	1,447	1,043	1,461	967	513	77	2	15,837
1918–19	------	22	138	1,023	6,209	4,481	2,139	700	814	420	211	60	15	16,232
1919–20	------	35	164	1,763	9,401	6,682	1,875	1,854	1,881	1,864	1,133	498	19	27,169
1920–21	------	33	111	653	7,521	4,967	2,069	1,123	1,699	1,498	1,056	700	[4] 197	21,627
1921–22	------	33	120	2,506	12,758	7,749	3,124	2,070	2,368	994	636	491	112	32,961
1922–23	------	33	78	2,187	6,792	5,596	3,298	4,194	3,007	2,004	780	297	29	28,295
1923–24	------	65	202	2,492	13,106	7,819	2,772	------	------	------	------	------	------	------
Oregon:														
1917–18	------	------	4	43	629	1,207	627	219	260	335	117	7	------	3,448
1918–19	------	2	9	59	723	746	359	126	128	72	15	7	------	2,246
1919–20	------	4	10	192	1,354	1,478	781	798	406	232	108	80	------	5,443
1920–21	------	1	3	36	961	1,079	452	260	207	116	43	12	------	3,170
1921–22	------	9	11	300	2,340	1,897	1,032	496	298	109	44	6	1	6,543
1922–23	------	1	1	98	867	1,238	706	451	314	191	23	3	------	3,893
1923–24	------	19	20	459	2,239	1,914	628	------	------	------	------	------	------	------
California:														
1917–18	------	112	173	514	404	216	62	22	34	36	30	25	2	1,630
1918–19	6	66	468	486	797	585	501	198	226	81	42	12	5	3,473
1919–20	5	273	441	877	908	709	370	155	148	173	48	41	5	4,153
1920–21	6	244	723	967	1,018	765	373	106	84	73	79	56	9	4,503
1921–22	13	352	690	1,224	1,494	699	181	120	117	101	42	21	1	5,055
1922–23	2	220	998	782	918	887	494	179	103	168	107	78	30	4,966
1923–24	61	1,290	986	1,259	1,415	772	221	------	------	------	------	------	------	------

[1] The crop movement season normally begins in June and extends through June of the following year, with irregular shipments continuing into July.

[2] Includes 3 cars in July.

[3] Includes 2 cars in July.

[4] Includes 10 cars in July.

TABLE 197.—*Apples: Monthly carlot shipments, by States, 1917–1923*—Contd.

State, and crop movement season.[1]	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	Total.
All other:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917–18	36	241	638	1,485	7,919	4,920	1,101	420	351	521	258	12	1	17,903
1918–19	148	642	553	1,854	4,885	1,321	299	230	178	127	29	32	3	10,301
1919–20	61	592	899	3,879	10,381	4,430	798	378	422	379	138	61	6	22,424
1920–21	107	854	704	2,485	8,498	3,861	994	703	486	519	134	50	18	19,393
1921–22	[b] 28	171	295	3,068	9,817	2,748	723	340	364	124	26	22	6	17,732
1922–23	545	1,358	922	3,648	8,932	4,028	1,371	846	587	466	181	89	13	22,986
1923–24	70	1,314	812	4,117	11,407	5,766	1,431							
Total:														
1917–18	54	751	1,308	5,719	21,895	14,165	3,903	2,362	3,232	2,882	1,647	347	51	58,406
1918–19	178	1,149	2,359	8,070	26,680	13,563	6,320	4,044	3,679	2,063	1,006	430	89	69,630
1919–20	102	1,347	2,712	12,259	32,666	15,854	5,301	4,393	4,419	4,378	2,229	1,276	99	87,035
1920–21	163	1,855	3,861	11,043	37,284	23,087	8,875	6,046	6,698	5,695	2,819	1,495	[c] 359	109,280
1921–22	[b] 76	1,207	3,384	12,653	35,057	14,464	5,991	4,199	4,756	2,903	1,763	1,117	243	87,813
1922–23	874	2,592	4,923	14,970	33,965	20,627	8,816	8,573	6,611	5,502	2,807	1,600	356	112,216
1923–24	153	3,308	5,924	15,542	45,955	25,307	7,759							

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] The crop movement season normally begins in June and extends through June of the following year, with irregular shipments continuing into July.

[b] Includes 1 car in May.

[c] Includes 15 cars in July.

TABLE 198.—*Apples: Cold storage holdings in United States, 1915–1923.*[1]

Year beginning Oct. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.
	1,000 barrels.	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*
1915–16		3,689	5,441	4,813	4,236	3,242	1,984	1,035	304
1916–17		3,260	4,492	4,132	3,385	2,442	1,545	808	265
1917–18		3,296	4,689	4,599	3,957	2,830	1,783	678	159
1918–19		3,752	4,928	4,294	3,105	1,772	956	380	125
1919–20	971	4,523	5,923	5,529	4,524	3,162	1,699	806	213
1920–21	544	4,475	6,787	6,386	5,105	3,650	2,210	1,119	445
1921–22	792	3,643	5,739	5,429	4,313	3,090	1,930	944	314
1922–23	1,452	5,521	6,743	6,481	5,376	3,877	2,314	1,070	277
1923–24	927	6,914	10,099	9,641					

Division of Statistical and Historical Research.

[1] Apples in barrels, boxes and baskets combined; 3 boxes or bushels equivalent to 1 barrel.

TABLE 199.—*Apples: Farm price per bushel, 1st of month, United States, 1910–1923.*

Year beginning June 1.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910–11	119.6	94.4	75.4	73.7	75.5	83.4	89.6	108.0	117.2	121.6	131.8	139.2	85.6
1911–12	137.5	115.1	83.9	71.6	68.0	69.4	72.1	89.4	95.8	101.2	109.2	121.8	76.6
1912–13	118.4	95.2	75.0	64.8	61.8	62.4	66.3	73.4	76.4	80.4	83.7	89.5	67.2
1913–14	97.6	93.6	80.6	75.8	81.0	90.0	98.1	107.1	116.8	126.0	133.0	141.8	89.7
Av. 1910–1913	118.3	99.6	78.7	71.5	71.6	76.3	81.5	94.5	101.6	107.3	114.4	123.1	79.8
1914–15	141.0	113.4	79.9	65.1	58.5	56.6	59.4	68.0	71.2	73.2	76.8	85.4	64.4
1915–16	90.4	84.4	70.1	59.9	62.0	69.2	69.0	79.7	88.0	92.0	94.9	98.0	68.9
1916–17	105.4	108.1	80.4	77.7	83.1	87.6	91.2	101.1	110.0	123.3	133.0	149.8	89.7
1917–18	157.2	151.1	107.0	107.8	106.8	117.5	121.5	128.8	140.1	145.3	151.9	154.8	117.5
1918–19	158.2	150.4	128.1	123.7	133.5	138.6	132.8	147.7	160.4	175.4	201.6	224.5	139.2
1919–20	237.3	197.7	174.7	162.0	171.1	182.8	183.6	213.8	214.7	231.8	260.1	285.5	183.6
1920–21	297.0	280.7	198.4	137.4	132.8	130.0	114.8	118.6	128.4	130.5	134.4	142.2	138.3
Av. 1914–1920	169.5	155.1	122.7	104.8	106.9	111.8	110.3	122.5	130.4	138.8	150.4	162.9	114.5
1921–22	169.2	170.0	171.2	163.6	186.9	213.9	168.0	180.6	181.7	197.4	199.4	209.1	186.0
1922–23	213.4	109.3	133.6	109.8	109.6	98.5	98.6	114.8	124.0	136.0	147.1	161.0	114.2
1923–24	173.9	182.1	131.2	111.4	115.1	105.0	102.2						

Division of Crop and Livestock Estimates.

TABLE 200.—*Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920–1923.*

BARRELS.

Market, and year beginning Sept. 1.	September.		October.		November average.	December average.	January average.	February average.	March average.	April.		May [1]	
	Range.	Average	Range.	Average.						Range.	Average.	Range.	Average.
New York:													
1920–21	$2.75–$8.00	$4.86	$2.00–$9.00	$5.23	$5.66	$4.71	$4.80	$5.01	$5.01	$3.50–$10.00	$6.79	$4.00–$13.50	$8.03
1921–22	5.50–13.00	8.09	5.00–11.00	7.72	7.18	7.82	8.23	8.62	7.64	5.00– 12.00	7.44		
1922–23	1.50– 7.50	3.53	2.00– 8.50	4.63	4.94	4.67	5.08	5.09	5.37	3.00– 8.50	6.06	3.75– 8.50	6.75
1923–24	2.00– 7.50	5.16	2.00–10.00	4.80	4.58	4.71							
Chicago:													
1920–21	3.50– 8.00	5.86	3.50– 9.00	6.28	6.29	5.23	5.36	5.15	5.38	4.50– 8.00	5.55	5.00– 9.00	6.53
1921–22	7.00–10.00	8.26	6.00–10.50	8.00	7.97	8.10	8.48	9.07	8.49	6.00– 9.00	7.86		
1922–23	2.00– 6.00	3.58	2.25– 7.00	4.41	4.68	4.90	4.58	4.84	5.17	4.00– 7.00	5.43	4.00– 9.50	6.40
1923–24	2.75– 7.00	4.60	3.50– 6.25	5.06	5.12	4.96							
Philadelphia:													
1920–21	2.00– 7.50	5.00	2.50– 8.50	4.93	4.49	4.13	4.05	4.17	4.44	2.85– 7.00	5.07	4.00– 7.50	6.00
1921–22	4.50–10.50	7.44	4.00–12.00	6.63	6.57	6.65	7.38	7.44	7.01	4.25– 8.00	6.64		
1922–23	1.50– 5.50	3.39	2.00– 7.00	3.65	3.86	4.13	4.33	4.72	4.91	4.00– 6.50	5.24	4.25– 8.50	5.81
1923–24	1.75– 7.00	4.28	1.75– 6.50	3.77	3.93	3.64							
Pittsburgh:													
1920–21	3.00– 6.50	4.99	3.00– 6.00	4.46	4.81	4.68	4.59	4.73	5.06	3.25– 6.50	5.34	4.50– 8.50	6.31
1921–22	5.25– 9.00	7.22	5.00– 9.00	7.16	6.55	6.25	7.63	7.42	7.07	5.75– 8.00	7.02		
1922–23	2.50– 4.00	3.25	2.50– 5.00	3.51	3.99	4.38	4.29	4.38	4.84	3.00– 6.50	4.80	4.00– 7.00	5.44
1923–24	2.50– 5.50	4.06	3.00– 5.50	3.54	3.49	4.05							
St. Louis:													
1920–21	3.00– 7.25	5.34	2.75– 7.50	4.67	4.97	4.83	4.68	4.88	5.23	4.75– 8.59	5.92	5.50– 10.00	6.66
1921–22			4.85– 8.25	6.48	5.44								
1922–23	2.00– 4.85	3.40	1.75– 4.75	3.36	3.15	4.53	4.61	4.53	4.89	3.50– 7.50	4.89		
1923–24	1.75– 5.25	4.07	1.75– 5.25	3.60	3.29	4.15							
Cincinnati:													
1920–21	4.00– 6.00	5.40	2.75– 6.00	4.63	4.45	4.87	4.46	4.65	5.31	4.25– 8.00	6.02	5.00– 7.75	6.70
1921–22	7.00– 9.00	8.12	5.00– 8.50	7.64	6.98	6.72	7.44	7.62	7.56	6.00– 8.50	7.76		
1922–23	2.50– 4.00	3.15	2.00– 4.75	3.32	4.15	4.41	4.46	4.72	5.08	4.00– 6.50	5.46	4.65– 6.50	5.98
1923–24			3.00– 5.50	4.07	4.30	4.88							
St. Paul:													
1920–21	7.00–12.50	8.79	5.50–10.00	7.81	5.85	5.53	5.31	5.69	5.87	4.75– 7.50	6.39		
1921–22			7.00– 8.50	7.37	7.73	7.97							
1922–23			4.00– 6.50	5.11	4.55	4.34	4.59	5.20	4.95	5.00– 5.50	5.19	5.00– 5.50	5.46
1923–24			5.50– 6.50	6.11	5.40	5.61							
Minneapolis:													
1920–21	6.50–11.50	9.63	5.75–11.00	8.88	7.85	5.84	6.13	6.17	6.14	6.00– 7.50	6.78	7.00– 8.25	7.51
1921–22			7.50–10.00	8.78	9.77	8.89	8.57	9.56	9.87				
1922–23	3.25– 6.00	4.73	3.50– 6.50	5.12	4.80	5.05	5.29	5.27	5.49	5.00– 6.25	5.39	5.25– 6.00	5.73
1923–24			4.00– 8.00	6.16	5.08	5.14							

Kansas City:													
1920-21	7.50- 9.00	8.45	5.00- 8.00	7.25	5.95	5.66	5.58	5.97	5.73	5.75- 7.00	5.91	5.75- 6.00	5.88
1921-22	10.00-12.00	11.00											
1922-23	3.00- 4.00	3.62	3.75- 5.00	4.33	4.50	4.58	4.53	4.38	5.05	4.50- 7.50	5.82	4.75- 5.00	4.88
1923-24	4.00- 6.50	5.02	3.25- 5.50	4.78	4.30	4.35							
Washington:													
1920-21 [2]	3.50- 7.50	5.90	3.00-14.00	5.74	5.46	5.52	4.68	4.71	5.19	3.50- 7.50	5.56	4.00- 10.00	6.61
1921-22 [2]	5.00-11.00	8.88	7.50-11.00	9.23	8.42	8.12	8.28	8.24	8.43	6.00- 9.00	8.38		
1922-23 [2]	3.00- 5.75	3.86	2.00- 6.50	4.79	4.76	4.42	4.41	4.43	4.96	4.00- 7.50	5.61	3.75- 8.00	6.23
1923-24	4.00- 9.00	5.20	3.50- 7.50	4.85	4.40	3.95							

BOXES.

New York:													
1920-21	$4.00-$5.25	$4.40	$2.25-$5.50	$3.68	$3.29	$3.88	$3.70	$3.90	$3.77	$2.50-$6.00	$3.98	$2.75-$5.00	$3.87
1921-22	2.25- 6.00	4.06	2.00- 5.50	3.36	2.80	3.12	3.01	3.35	3.41	2.75- 4.75	3.54		
1922-23	1.50- 4.50	2.65	1.40- 5.25	2.85	2.36	2.42	2.41	2.35	2.57	1.90- 3.75	2.74	2.25- 4.75	3.45
1923-24	1.50- 4.50	2.95	1.15- 5.00	2.41	2.09	2.13							
Chicago:													
1920-21	4.00- 5.25	4.62			3.67	3.75	3.14	3.30	3.62	2.25- 5.25	3.23	2.50- 4.50	3.23
1921-22			2.00- 4.75	3.43	3.05	3.00	3.16	3.34	3.36	2.00- 4.50	3.45		
1922-23	[1] 1.00- 2.80	[1] 1.89	1.50- 3.75	2.69	2.48	2.61	2.69	2.71	3.07	2.25- 5.00	2.96	1.85- 5.00	2.91
1923-24	2.50- 4.00	3.10	1.50- 3.75	2.39	2.42	2.55							
Philadelphia:													
1920-21			2.00- 4.75	3.16	2.72	2.52	3.44	3.83	3.06			2.00- 4.00	3.11
1921-22			1.38- 5.00	2.88	2.41	2.49	2.77	2.96	3.32	2.25- 3.75	3.13		
1922-23			1.25- 3.50	2.34	1.93	2.10	2.07	2.06	2.39	2.00- 3.25	2.65		
1923-24			1.00- 3.25	1.82	1.77	1.76							
Pittsburgh:													
1920-21			3.50- 5.50	4.26	3.64		2.60		3.11	2.25- 3.75	3.04	2.25- 4.00	3.18
1921-22			2.00- 4.75	3.22	2.85		3.07	3.26	3.50	2.25- 4.50	3.13		
1922-23			1.50- 3.00	2.17	2.00	2.32	2.22	2.28	2.49	2.00- 3.50	2.71	2.25- 3.50	2.96
1923-24			1.25- 4.50	2.39	2.09	2.27							
St. Louis:													
1921-22							2.70	3.09	2.97				
1922-23													
1923-24													
Cincinnati:													
1920-21							2.40						
1921-22													
1922-23						2.05							
1923-24													
St. Paul:													
1920-21			3.25- 3.75	3.50	3.34	3.23	3.09	3.54	3.28	3.00- 3.75	3.29	3.00- 3.50	3.27
1921-22	2.25- 3.75	2.81	3.00- 4.25	3.62	3.56	3.62	3.32	3.15	3.33	3.00- 3.50	3.26		
1922-23	[1] 2.25- 2.50	[1] 2.38	1.80- 3.50	2.20	2.64	2.45	2.27	2.21	2.41	2.40- 2.75	2.56	2.50- 2.85	2.72
1923-24			2.00- 3.00	2.42	2.50	2.59							

[1] Last quotation May 12, 1923. [2] Sales direct to retailers. [3] First quotations in 1922-23 were, Sept. 26 for Chicago, Sept. 21 for St. Paul, and Sept. 20 for Minneapolis

TABLE 200.—*Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920–1923*—Continued.

BOXES—Continued.

Market, and year beginning Sept. 1.	September.		October.		November average.	December average.	January average.	February average.	March average.	April.		May.[1]	
	Range.	Average.	Range.	Average.						Range.	Average.	Range.	Average.
Minneapolis:													
1920–21			$3.40–$4.40	$3.80	$3.74	$3.59	$3.18	$3.45	$3.41	$3.00–$3.75	$3.38	$3.00–$3.75	$3.38
1921–22	$2.25–$4.75	$3.22	2.90– 4.75	3.75	3.57	3.77	3.46	3.39	3.57	3.00– 4.00	3.46		
1922–23	[2] 2.40– 3.37	[2] 2.59	1.75– 3.50	2.50	2.70	2.62	2.59	2.40	2.58	2.50– 3.00	2.79	2.50– 3.00	2.78
1923–24			1.30– 3.15	2.55	2.49	2.37							
Kansas City:													
1920–21			3.00– 4.50	3.61	3.60	3.07	2.84	3.29	3.53	3.50– 4.50	4.00	3.50– 4.50	4.00
1921–22	3.75	3.75	2.75– 4.50	3.54	3.63	3.52	3.49	3.59	3.75	3.00– 4.50	3.48		
1922–23			1.75– 3.50	2.76	2.78	2.75	2.74	2.70	3.18	2.75– 4.00	3.32	2.75– 3.25	3.00
1923–24	2.50– 3.25	2.74	1.25– 4.00	2.69	2.38	2.38							
Washington:													
1921–22 [3]			2.25– 5.00	3.75	3.64	3.38	3.06	3.52	3.44	3.00– 4.50	3.54		
1922–23 [3]					2.79	2.54	2.62	2.38	2.39	2.00– 3.25	2.65	2.50– 4.25	3.05
1923–24	1.50– 3.50	2.85	1.25– 3.75	2.77	2.69	2.62							

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

[1] Last quotation May 12, 1923. [2] Sales direct to retailers. [3] First quotations in 1922–23 were, Sept. 26 for Chicago, Sept. 21 for St. Paul, and Sept. 20 for Minneapolis.

TABLE 201.—*Apples: Monthly average wholesale prices per barrel at New York, 1900–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.
1900–1	$1.93	$1.97	$2.53	$3.10	$2.75	$3.15	$3.55	$3.81	$3.72
1901–2	3.41	3.62	4.78	5.00	5.00	5.06	4.90	4.25	4.40
1902–3	1.91	1.97	2.20	2.00	2.37	2.59	2.12	2.00	2.52
1903–4	2.69	2.43	2.94	2.71	2.90	2.97	3.06	3.02	2.91
1904–5	2.00	2.03	1.96	2.25	2.38	2.44	2.75	2.43	2.97
1905–6	3.18	2.97	3.75	3.75	3.75	4.50	4.82	6.06	5.59
1906–7	2.67	3.32	3.06	2.62	2.88	3.25	3.22	3.66	5.00
1907–8	3.72	3.56	3.55	3.34	3.46	3.52	3.22	3.00	2.60
1908–9	2.68	3.04	3.16	3.50	4.09	4.53	4.68	5.00	5.02
1909–10	3.72	4.22	3.81	3.69	3.82	3.21	3.28	3.48	3.71
1910–11	3.50	3.65	3.75	4.14	4.12	4.50	4.75	5.35	5.31
1911–12	2.55	3.06	2.71	3.12	2.84	2.96	3.39	4.20	4.00
1912–13	2.66	3.06	2.75	2.62	2.71	2.78	2.70	3.12	4.00
1913–14	3.29	4.43	3.75	4.00	4.06	4.79	4.75	5.34	5.14
Average 1909–1913	3.14	3.49	3.35	3.51	3.51	3.65	3.77	4.30	4.43
1914–15	2.38	2.22	2.78	3.12	2.80	2.91	2.84	3.56	3.65
1915–16	2.38	2.95	3.12	3.06	3.05	3.19	3.33	3.12	2.96
1916–17	3.30	3.38	4.18	4.60	5.00	5.38	5.91	5.53	5.28
1917–18	4.08	4.44	4.94	5.10	5.00	4.88	4.92	5.75	6.75
1918–19	5.38	6.03	5.98	6.31	6.50	7.88	9.55	10.00	10.80
1919–20	6.12	7.81	7.55	7.50	7.00	8.06	7.50	7.08	9.25
1920–21	5.38	6.25	6.33	6.38	5.40	4.88	5.56	6.32	5.38
Average 1914–1920	4.15	4.73	4.98	5.15	4.96	5.31	5.66	5.91	6.30
1921–22	6.06	8.10	6.91	6.80	6.62	.....	7.67	6.98	7.06
1922–23	4.16	4.62	4.48	5.50	5.78	5.22	6.47	6.56	7.06
1923–24	4.94	5.92	5.55	4.42	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Compiled from the American Agriculturist.

TABLE 202.—*Apples: Wholesale prices per barrel at New York for October 15, January 1, and March 1, 1881–1923.*

Year	Oct. 15.	Jan. 1.	Mar. 1.	Year.	Oct. 15.	Jan. 1.	Mar. 1	Year.	Oct. 15.	Jan. 1.	Mar 1.
1881–82	$3.00	$3.00	$2.75	1899–1900	$2.38	$2.62	$3.12	1914–15	$2.50	$2.88	$3.25
1882–83	2.25	2.88	3.40	1900–1	1.88	3.12	3.12	1915–16	2.88	3.00	3.00
1883–84	2.25	3.25	3.48	1901–2	3.50	5.00	5.25	1916–17	3.12	4.88	5.62
1884–85	1.38	1.88	2.85	1902–3	1.88	2.25	2.25	1917–18	4.50	5.00	5.00
1885–86	1.50	1.94	1.56	1903–4	2.50	2.75	3.00	1918–19	5.38	6.50	9.25
1886–87	2.00	4.00	3.00	1904–5	1.88	2.38	2.62	1919–20	6.75	6.50	8.25
1887–88	1.68	2.88	2.50	1905–6	3.00	3.75	4.62	1920–21	6.75	5.00	4.25
1888–89	2.25	1.88	1.38	1906–7	3.38	2.55	3.12	Average 1914–1920	4.55	4.82	5.52
1889–90	2.75	3.00	3.25	1907–8	3.75	3.38	3.50				
1890–91	3.00	4.00	4.25	1908–9	3.25	3.75	4.75				
1891–92	1.50	1.50	1.72	1909–10	4.00	4.12	3.25	1921–22	8.25	6.75	6.50
1892–93	2.00	3.00	2.50	1910–11	3.75	4.00	4.50	1922–23	5.00	5.50	6.50
1893–94	2.25	3.88	4.52	1911–12	3.25	2.75	2.88	1923–24	7.25	4.75	.....
1894–95	2.00	2.50	4.00	1912–13	3.00	2.75	2.88				
1895–96	1.02	2.50	3.02	1913–14	3.50	4.25	4.88				
1896–97	1.38	1.31	2.38	Average 1909–1913	3.50	3.57	3.68				
1897–98	2.88	3.75	3.25								
1898–99	3.00	3.75	4.25								

Division of Statistical and Historical Research. Compiled from the American Agriculturist.

TABLE 203.—*Oranges: Production and value, 1915–1923.*

Year	United States.			Florida.			California.		
	Production.	Average price per box Dec. 1.	Farm value Dec. 1.	Production.	Average price per box Dec. 1.	Farm value Dec. 1.	Production.	Average price per box Dec. 1.	Farm value Dec. 1.
	1,000 boxes.	*Dollars.*	*1,000 dollars.*	*1,000 boxes.*	*Dollars.*	*1,000 dollars.*	*1,000 boxes.*	*Dollars.*	*1,000 dollars.*
1915	21,200	2.39	50,692	6,150	1.88	11,562	15,050	2.60	39,130
1916	24,433	2.52	61,463	6,933	2.05	14,213	17,500	2.70	47,250
1917	10,503	2.60	27,556	3,500	2.30	8,050	7,093	2.75	19,506
1918	24,200	3.49	84,480	5,700	2.65	15,105	18,500	3.75	69,375
1919	22,528	2.67	60,202	7,000	2.50	17,500	15,528	2.75	42,702
1920	29,700	2.19	64,908	8,100	2.20	17,820	21,600	2.18	47,088
1921	20,300	2.51	51,000	7,300	2.00	14,600	13,000	2.80	36,400
1922	30,200	2.10	63,310	9,700	2.30	22,310	20,500	2.00	41,000
1923	34,800	1.84	64,080	12,000	1.35	16,200	[1]22,800	2.10	47,880

Division of Crop and Livestock Estimates. [1] See Note 3 of Table 210.

TABLE 204.—*Citrus fruits: Carlot shipments, by States of origin, calendar years, 1918–1923.*

GRAPEFRUIT.

State.	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
Florida	5,289	6,328	11,498	11,795	13,626	18,073
Alabama						
Mississippi						
Texas						59
Arizona	9	17	54	54	65	98
California	352	279	477	426	491	497
Total	5,650	6,624	12,029	12,275	14,182	18,727

LEMONS.

Florida			2			
Alabama						
Mississippi						
Texas						
Arizona					1	
California	6,913	8,823	9,371	11,887	9,874	8,430
Total	6,913	8,823	9,373	11,887	9,875	8,430

ORANGES.

Florida	12,184	13,264	19,273	18,914	17,435	25,285
Alabama	6	5	71	145	401	577
Mississippi						10
Texas						
Arizona	71	98	49	73	75	98
California	16,183	35,957	30,906	46,759	28,615	46,001
Total	28,444	49,324	50,299	65,891	46,526	71,971

TOTAL CITRUS FRUITS (GRAPEFRUIT, LEMONS, AND ORANGES).

Florida	17,473	19,592	30,773	30,709	31,061	43,358
Alabama	6	5	71	145	401	577
Mississippi						10
Texas						59
Arizona	80	115	103	127	141	196
California	23,448	45,059	40,754	59,072	38,980	54,928
Total	41,007	64,771	71,701	90,053	70,583	99,128

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 205.—*Grapefruit, Floridas (excluding russets): Monthly average wholesale prices per box at New York, 1908–1923.*

Calendar year.	Jan.	Feb.	Mar	Apr.	May.	June.	July.	Oct.	Nov.	Dec.
1908	$5.40	$5.75	$5.94	$5.50	$4.90			$3.88	$3.62	$3.53
1909	3.15	3.12	3.12	3.90	5.25	$5.25		3.21	3.47	3.50
1910	3.50	4.34	4.28	4.38	4.39			5.00	4.50	3.65
1911	3.50	3.53	3.69	3.34	3.75	4.09		6.41	4.69	4.78
1912	4.00	4.75	4.95	6.44	7.38			4.00	3.62	3.47
1913	2.95	3.50	3.12	3.38	3.80	5.75		5.08	4.78	3.62
Average 1909–1913	3.42	3.85	3.83	4.20	4.91			4.74	4.23	3.80
1914	3.80	3.81	3.78	4.06	3.45	3.06		3.06	2.78	2.53
1915	2.38	2.38	2.25	2.62	2.81	3.88		5.25	4.16	3.45
1916	3.56	3.38	3.50	3.62	3.50	4.38	$4.75		4.50	4.35
1917	3.75	4.12	4.12	4.12	4.12	4.50	4.75			
1918			4.62	4.62	4.62				4.75	4.75
1919	4.75	4.75	4.88	6.56	7.25	7.75			4.75	4.75
1920	4.75	4.06	4.00	4.40	5.56	4.38	4.15		6.25	6.25
Average 1914–1920			3.88	4.29	4.47					
1921	6.25	6.25	6.25	6.25	6.25	6.00	5.25	5.38	5.38	5.38
1922	6.12	6.12	6.12	6.12	6.12	6.12				
1923										

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

TABLE 206.—*Lemons, California: Monthly average wholesale prices per box at New York, 1908–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	$3.10	$3.25	$3.06	$2.91	$3.02	$3.25	.....	.....	.....	.....	$4.72	$3.19
1909	3.76	3.88	3.20	3.42	3.62	3.12	$5.80	.....	.....	.....	5.75	5.25
1910	4.62	3.84	3.44	3.78	4.00	.....	.....	.....	.....	$6.97	6.17	3.88
1911	3.50	4.22	3.88	3.94	4.75	5.88	4.75	.....	$4.94	5.97	5.91	4.40
1912	3.62	.....	.....	.....	.....	.....	.....	.....	10.00	7.66	7.60	6.22
1913	4.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	.....	.....	.....	.....	.....	.....	4.75	4.56	4.25	3.00
1915	2.52	2.59	2.75	2.84	3.36	3.28	2.08	$2.69	3.03	3.90	4.31	4.18
1916	4.19	3.62	2.90	3.19	3.56	4.15	5.69	8.12	7.62	7.38	6.56	4.70
1917	3.12	3.50	3.72	4.62	4.62	5.25	6.75	8.85	10.25	7.34	.....	5.88
1918	5.88	5.88	5.88	5.56	6.08	8.28	8.38	8.38	8.38	8.38	8.38	4.81
1919	3.62	4.59	4.06	4.41	4.62	2.97	4.53	5.50	5.88	8.75	6.00	6.00
1920	6.00	6.00	6.25	6.25	4.50	2.75	3.05	3.25	3.25	3.25	3.25	3.25
1921	3.25	3.25	3.25	3.25	3.25	7.43	9.82	7.50	7.50	7.50	7.50	7.50
1922	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	9.00	9.00	8.60
1923	6.75	6.75	6.75	6.75	6.75	6.75	6.75	7.05	6.62	6.62	6.62	6.62

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

TABLE 207.—*Oranges, California Navels: Monthly average wholesale prices per box at New York, 1908–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Dec.
1908	$3.22	$3.25	$2.97	$3.02	$3.50	$4.38	$4.38	$3.38
1909	3.28	3.25	3.03	3.28	3.00	3.16	3.62	.....
1910	2.88	3.19	3.12	3.18	3.56	3.72	4.00	3.62
1911	3.22	3.32	4.12	3.42	3.78	3.82	.....	.....
1912	.....	3.72	3.30	3.44	3.22	3.69	3.56	3.50
1913	2.54	3.55	4.16	4.72	5.15	.....	.....	3.38
Average 1909–1913	.....	3.41	3.55	3.61	3.74	.....	.....	.....
1914	3.28	3.09	3.03	3.12	3.50	2.81	.....	3.19
1915	2.73	2.90	2.79	2.96	3.19	3.44	.....	3.79
1916	3.38	3.38	3.02	3.66	3.50	4.00	.....	3.06
1917	3.25	3.72	3.98	4.38	4.38	4.38	4.38	4.25
1918	4.25	5.00	5.95	6.75	6.75	.....	.....	.....
1919	.....	4.91	5.69	5.75	5.62	.....	.....	.....
1920	.....	.....	.....	.....	.....	.....	.....	5.00
1921	4.00	4.00	4.00	4.00	4.00	4.00	.....	7.25
1922	6.31	6.00	6.00	6.00	6.00	.....	.....	7.75
1923	7.75	7.75	7.75	7.75	7.75	7.75	.....	6.00

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

TABLE 208.—*Oranges, California Valencias: Monthly average wholesale prices per box at New York, 1908–1923.*

Calendar year.	Jan.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	----------	$5.12	$5.25	$5.25	$5.25	$5.50	$7.00	----------
1909	----------	----------	4.88	4.94	5.44	5.98	6.50	$6.50
1910	----------	----------	6.22	6.94	6.95	7.50	8.41	9.50
1911	----------	4.38	4.91	5.66	5.72	6.78	7.03	9.25
1912	$9.38	4.75	5.16	5.15	5.56	5.91	6.62	----------
1913	----------	6.22	7.03	6.60	6.44	7.80	8.12	----------
Average 1909–1913	----------	----------	5.64	5.86	6.02	6.79	7.34	----------
1914	----------	3.58	3.95	4.31	3.94	4.15	4.97	6.56
1915	----------	----------	4.92	5.41	6.09	6.88	7.50	8.38
1916	----------	5.00	5.12	5.44	6.48	7.12	6.94	6.75
1917	----------	----------	----------	5.75	5.75	5.47	6.25	4.81
1918	3.38	7.94	7.75	7.75	7.75	9.84	12.72	11.00
1919	11.00	5.56	5.53	7.35	7.50	7.55	7.75	7.75
1920	7.75	----------	8.50	7.56	7.25	7.75	8.50	10.50
Average 1914–1920	----------	----------	----------	6.22	6.39	6.97	7.80	7.96
1921	----------	5.25	5.32	6.25	6.25	6.25	6.25	6.25
1922	----------	10.75	10.75	10.75	10.75	11.00	11.25	11.25
1923	----------	----------	6.50	6.35	6.12	6.12	6.12	6.12

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

OLIVE OIL.

TABLE 209.—*Olive oil (including inedible): International trade, calendar years, 1909-1922.*

Country.	Average, 1909-1913.[1]		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Algeria	[2] 974	[2] 11,566	110	1,720	288	4,120	246	20,831
Greece	----------	22,272	813	3,916	206	25,004	127	36,464
Italy	[2] 6,643	75,130	2,631	23,374	25,196	30,908	9,321	40,510
Spain	30	86,454	21	119,754	1	105,708	9	102,472
Tunis	2,020	18,090	70	1,311	8	58,322	20	68,319
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	48,248	----------	31,538	----------	----------	----------	----------	----------
Australia	510	11	523	[3]	305	1	----------	----------
Belgium	[2] 4,295	[2] 582	1,676	293	1,373	186	2,375	207
Brazil	8,409	----------	9,733	----------	1,224	----------	----------	----------
Canada	1,593	----------	1,459	----------	1,557	----------	1,744	----------
Chile	7,255	----------	5,425	----------	3,941	----------	----------	----------
Cuba	----------	----------	11,232	----------	----------	----------	----------	----------
Denmark	146	----------	202	8	157	9	----------	----------
Egypt	4,803	----------	1,591	3	3,164	18	3,223	13
France	[2] 42,502	12,935	20,250	4,812	44,847	10,009	58,300	13,742
Germany	6,085	----------	----------	----------	[1] 1,192	----------	769	5
Japan	126	----------	427	----------	134	----------	----------	----------
Morocco	267	375	3,647	[3]	5,514	----------	----------	----------
Netherlands	[2] 282	[2] 205	37	36	151	43	139	24
New Zealand	68	----------	87	----------	54	----------	----------	----------
Norway	3,458	33	2,227	[1] 11	873	[1] 4	4,429	----------
Peru	[2] 684	[2] 77	1,496	----------	825	----------	481	[3]
Philippine Islands	360	----------	125	----------	115	----------	177	----------
Sweden	889	2	305	33	253	5	----------	----------
Switzerland	4,138	71	1,226	[1] 4	2,554	[1] 9	2,914	----------
United Kingdom	22,950	823	9,052	668	9,854	164	17,136	190
United States	39,903	----------	31,087	----------	53,881	----------	87,974	----------
Uruguay	4,249	----------	[1] 5,132	----------	[1] 5,477	----------	----------	----------
Other countries	53,766	30,132	9,155	33	6,837	320	150	----------
Total	264,653	258,758	151,277	155,976	169,981	234,890	189,534	282,777

Division of Statistical and Historical Research. Official sources except where otherwise noted. (Conversions on basis of 7.5 pounds to the gallon).

[1] International Institute of Agriculture, for Oleaginous Products and Vegetable Oils.
[2] Four-year average.
[3] Less than 500 pounds.

TABLE 210.—*Fruits and nuts: Production and value in California and Florida, 1919–1923.*

CALIFORNIA.

Crop and year.	Production.	Farm value, Dec. 1.		Crop and year.	Production.	Farm value, Dec. 1.	
		Per unit.	Total.			Per unit.	Total.
Apples:	*Bushels.*			Grapes (table):	*Tons.*		
1919	8,200,000	$1.45	$11,890,000	1919	200,000	75.00	15,000,000
1920	6,000,000	1.60	9,600,000	1920	190,000	75.00	14,250,000
1921	6,500,000	1.35	8,775,000	1921	210,000	75.00	15,750,000
1922	7,850,000	.90	7,065,000	1922	308,000	52.00	16,016,000
1923	8,450,000	.75	6,338,000	1923	340,000	35.00	11,900,000
Pears:	*Tons.*			Grapes (wine):			
1919	115,000	72.00	8,280,000	1919	400,000	50.00	20,000,000
1920	102,000	90.00	9,180,000	1920	375,000	75.00	28,125,000
1921	86,000	62.50	5,375,000	1921	310,000	82.00	25,420,000
1922	150,000	50.00	7,500,000	1922	450,000	65.00	29,250,000
1923	128,000	50.00	6,400,000	1923	428,000	40.00	17,120,000
Peaches:				Oranges:[2]	*Boxes.*		
1919	430,000	60.00	25,800,000	1919	15,528,000	2.75	42,702,000
1920	360,000	76.00	27,360,000	1920	21,600,000	2.18	47,088,000
1921	310,000	42.00	13,020,000	1921	13,000,000	2.80	36,400,000
1922	410,000	45.00	18,450,000	1922	20,500,000	2.00	41,000,000
1923	380,000	24.00	9,120,000	1923[3]	22,800,000	2.10	47,880,000
Apricots:				Lemons:[2]			
1919	175,000	80.00	14,000,000	1919	3,499,000	2.00	6,998,000
1920	110,000	85.00	9,350,000	1920	4,955,000	2.92	14,469,000
1921	100,000	50.00	5,000,000	1921	4,050,000	3.45	13,973,000
1922	145,000	70.00	10,150,000	1922	3,400,000	3.30	11,220,000
1923	170,000	25.00	4,250,000	1923[3]	4,800,000	1.90	9,120,000
Prunes:[1]				Figs:	*Tons.*		
1919	135,000	240.00	32,400,000	1919	12,000	150.00	1,800,000
1920	97,250	130.00	12,643,000	1920	12,300	90.00	1,107,000
1921	100,000	130.00	13,000,000	1921	9,600	145.00	1,392,000
1922	110,000	140.00	15,400,000	1922	11,000	120.00	1,320,000
1923	80,000	100.00	8,000,000	1923	9,000	90.00	810,000
Plums:				Olives:			
1919	42,000	60.00	2,520,000	1919	8,800	160.00	1,408,000
1920	35,000	90.00	3,150,000	1920	8,000	95.00	760,000
1921	42,000	53.00	2,226,000	1921	8,200	90.00	738,000
1922	48,000	50.00	2,400,000	1922	10,000	125.00	1,250,000
1923	69,000	30.00	2,070,000	1923	17,000	65.00	1,105,000
Cherries:				Almonds:			
1919	12,400	150.00	1,860,000	1919	7,250	440.00	3,190,000
1920	17,500	200.00	3,500,000	1920	5,500	360.00	1,980,000
1921	13,000	125.00	1,625,000	1921	6,000	320.00	1,920,000
1922	14,000	180.00	2,520,000	1922	8,500	290.00	2,465,000
1923	14,500	160.00	2,320,000	1923	11,000	260.00	2,860,000
Raisins:[1]				Walnuts:			
1919	182,500	210.00	38,325,000	1919	28,100	550.00	15,455,000
1920	177,000	235.00	41,595,000	1920	21,000	400.00	8,400,000
1921	145,000	190.00	27,550,000	1921	19,500	400.00	7,800,000
1922	237,000	105.00	24,885,000	1922	27,000	360.00	9,720,000
1923	237,000	80.00	18,960,000	1923	25,000	400.00	10,000,000

FLORIDA.

Oranges:	*Boxes.*			Limes:	*Boxes.*		
1919	7,000,000	2.50	17,500,000	1919	28,000	3.45	97,000
1920	8,100,000	2.20	18,820,000	1920	26,000	3.10	81,000
1921	7,300,000	2.00	14,600,000	1921	33,000	2.75	91,000
1922	9,700,000	2.30	22,310,000	1922	35,000	2.90	102,000
1923	12,000,000	1.35	16,200,000	1923	40,000	3.00	120,000
Grapefruit:				Pineapples:	*Crates.*		
1919	5,500,000	1.85	10,175,000	1919	26,000	4.25	111,000
1920	5,100,000	2.30	11,730,000	1920	47,000	4.30	202,000
1921	6,000,000	1.70	10,200,000	1921	11,000	5.00	55,000
1922	7,200,000	1.90	13,680,000	1922	22,000	4.75	105,000
1923	8,000,000	1.20	9,600,000	1923	57,000	4.00	228,000

Division of Crop and Livestock Estimates; California estimates in cooperation with California Department of Agriculture. 1923 estimates are preliminary.

[1] Dried basis.

[2] Representing the commercial crop year beginning Oct. 1; the numbers for 1923, for instance, represent the fruit that set during the season of 1923 and will be picked and marketed from Oct. 1, 1923, to Sept. 30, 1924.

[3] Freeze during January, 1924, promises to reduce the stated figures for oranges by about one million boxes. Damage to lemons still undetermined.

CRANBERRIES.

TABLE 211.—*Cranberries: Acreage, production, and farm value, United States, 1914–1923; by States, 1922 and 1923.*

Calendar year and State.	Acreage.		Average yield, in barrels, per acre.		Production, thousands of barrels.		Average farm price per barrel Dec. 1.		Farm value, thousands of dollars.	
1914	22,000		31.7		697		$3.97		2,766	
1915	23,100		19.1		441		6.59		2,908	
1916	26,200		18.0		471		7.32		3,449	
1917	18,200		13.7		249		10.24		2,550	
1918	25,400		13.9		352		10.77		3,791	
1919	25,600		22.0		549		8.37		4,597	
1920	25,600		16.0		449		12.28		5,514	
1921	25,000		15.4		384		16.99		6,526	
Leading States.	1922	1923[1]	1922	1923	1922	1923[1]	1922	1923	1922	1923[1]
Total	25,000	25,000	22.4	24.4	560	610	10.18	7.25	5,702	4,423
Massachusetts	12,000	12,000	25.4	29.2	305	350	10.50	6.50	3,202	2,275
New Jersey	11,000	11,000	18.2	20.0	200	220	9.75	8.00	1,950	1,760
Wisconsin	2,000	2,000	27.5	20.0	55	40	10.00	9.70	550	388

Division of Crop and Livestock Estimates. [1] Preliminary.

GRAPES.

TABLE 212.—*Grapes: Estimated production, by States, calendar years, 1922 and 1923.*

State.	1922	1923[1]	State.	1922	1923[1]
	1,000 pounds.	*1,000 pounds.*		*1,000 pounds.*	*1,000 pounds.*
Maine	112	104	Kansas	6,768	5,400
New Hampshire	204	176	Kentucky	2,000	1,690
Vermont	90	74	Tennessee	4,574	2,065
Massachusetts	860	913	Alabama	1,400	1,470
Rhode Island	369	552	Mississippi	468	504
Connecticut	1,760	1,955	Louisiana	57	50
New York	210,000	122,220	Texas	1,674	2,325
New Jersey	4,505	4,488	Oklahoma	3,713	2,940
Pennsylvania	50,000	33,000	Arkansas	2,400	1,920
Delaware	1,620	1,539	Colorado	576	594
Maryland	1,000	1,760	New Mexico	910	1,170
Virginia	2,900	4,032	Arizona	630	690
West Virginia	1,944	2,183	Utah	1,269	1,378
North Carolina	11,760	11,664	Nevada	300	----------
South Carolina	2,706	2,952	Idaho	570	600
Georgia	3,040	3,000	Washington	3,784	3,969
Ohio	45,000	38,710	Oregon	3,000	2,730
Indiana	8,836	7,980	California	3,602,000	3,622,000
Illinois	12,740	10,988			
Michigan	127,500	88,560	United States	4,152,342	4,015,609
Wisconsin	693	576			
Minnesota	150	148			
Iowa	13,000	11,880			
Missouri	14,700	12,000			
Nebraska	2,700	2,640			

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 213.—*Grapes: Carlot shipments, by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	3,621	2,017	3,751	6,079	2,451	7,728	4,239
Pennsylvania	801	367	881	1,245	390	1,558	854
Ohio	196	50	87	50	68	80	76
Michigan	3,298	1,635	3,783	4,607	1,237	6,020	4,034
Iowa	85	68	108	106	68	230	207
Missouri	28	21	36	26	4	128	72
Washington	31	59	37	8	67	47	36
California	13,251	16,639	21,605	26,974	32,879	43,884	53,477
All other	66	59	61	110	38	177	202
Total	21,379	20,915	30,349	39,205	37,302	59,858	63,217

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

PEACHES.

TABLE 214.—*Peaches: Production, United States, 1899–1923.*

Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production.
	Bushels.		*Bushels.*		*Bushels.*
1899	*15, 433, 000*	1908	48, 146, 000	1916	37, 505, 000
1900	49, 438, 000	1909	*35, 470, 000*	1917	48, 705, 000
1901	46, 445, 000	1910	48, 171, 000	1918	33, 094, 000
1902	37, 831, 000	1911	34, 880, 000	1919	53, 178, 000
1903	28, 850, 000	1912	52, 343, 000	1920	45, 620, 000
1904	41, 070, 000	1913	39, 707, 000	1921	32, 602, 000
1905	36, 634, 000	1914	54, 109, 000	1922	55, 852, 000
1906	44, 104, 000	1915	64, 097, 000	1923	45, 702, 000
1907	22, 527, 000				

Division of Crop and Livestock Estimates. Census figures in italics.

TABLE 215.—*Peaches: Production and farm prices, by States, calendar years, 1919–1923.*

State.	Total crop, thousands of bushels.					Farm price per bushel Sept. 15—				
	1919	1920	1921	1922	1923 [1]	1919	1920	1921	1922	1923
						Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
New Hampshire	39	0	29	32	40	210	400	317	248	162
Massachusetts	213	4	185	200	205	220	400	357	262	270
Rhode Island	29	3	9	28	31	350	415	357	270	195
Connecticut	195	10	290	262	232	250	425	371	285	264
New York	1, 262	2, 600	1, 700	3, 400	1, 700	270	225	255	110	181
New Jersey	1, 653	2, 134	347	2, 000	2, 642	270	220	335	185	209
Pennsylvania	1, 100	2, 000	350	1, 560	1, 907	300	250	345	180	183
Delaware	227	203	7	320	225	190	225	300	80	150
Maryland	564	692	59	495	631	190	210	300	170	150
Virginia	682	1, 092	52	764	504	200	185	300	170	210
West Virginia	760	992	48	715	526	220	225	300	200	205
North Carolina	575	1, 539	644	1, 010	260	210	184	235	170	200
South Carolina	390	832	566	845	550	220	200	145	150	240
Georgia	5, 895	3, 799	6, 550	4, 900	5, 248	250	171	160	146	178
Florida	148	150	130	130	120	250	300	210	350	192
Ohio	618	3, 238	335	1, 584	1, 386	330	215	365	176	187
Indiana	82	405	26	650	445	330	258	352	178	231
Illinois	450	770	76	1, 100	675	270	317	371	175	264
Michigan	448	1, 500	358	1, 440	1, 125	310	230	290	150	179
Iowa	2	100	30	200	40	330	347	341	172	200
Missouri	1, 263	1, 427	0	2, 300	1, 040	200	254	-------	110	174
Nebraska	0	5	0	81	45	310	403	-------	150	270
Kansas	214	187	24	630	78	260	400	320	170	252
Kentucky	460	988	80	1, 218	450	240	225	300	140	164
Tennessee	1, 285	1, 500	320	2, 002	460	180	180	230	108	190
Alabama	1, 083	974	1, 280	810	770	170	175	165	120	138
Mississippi	776	412	322	375	260	150	175	150	200	195
Louisiana	382	269	264	180	175	190	275	250	167	200
Texas	4, 621	800	2, 260	1, 920	1, 700	180	310	165	220	217
Oklahoma	2, 924	180	360	2, 070	1, 290	140	250	150	115	159
Arkansas	3, 340	117	435	2, 040	1, 110	160	235	160	100	163
Colorado	722	670	810	900	792	250	250	175	100	171
New Mexico	204	6	8	98	189	200	250	325	200	200
Arizona	140	48	54	128	90	180	350	300	190	250
Utah	884	471	763	885	802	160	250	171	50	129
Nevada	6	6	4	6	5	270	300	250	75	200
Idaho	293	42	150	244	282	180	290	175	155	108
Washington	1, 545	155	772	950	1, 333	170	280	182	106	134
Oregon	504	100	105	300	500	140	330	250	125	168
California	17, 200	15, 200	12, 010	17, 080	15, 330	150	190	100	108	58
United States	53, 178	45, 620	32, 602	55, 852	45, 702	199. 0	210. 4	158. 7	133. 8	140. 0

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 216.—*Peaches: Condition of crop, United States, 1st of month, 1868–1923.*

Calendar year.	June.	July.	Aug.	Per cent of a full crop.	Calendar year.	June.	July.	Aug.	Per cent of a full crop.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1868	113.9	103.2	105.0	91.5	1898	70.8	61.8	.....	63.6
1869	97.8	97.4	90.9	91.0	1899	25.6	23.6	.....	19.6
1870	79.2	80.3	72.1	68.4	1900	88.2	85.4	.....	78.0
1871	96.1	96.1	87.6	92.2	1901	88.5	82.5	.....	70.1
1872	91.8	90.7	85.4	86.3					
					1902	66.0	62.8	59.0	57.8
1873	59.0	55.4	47.0	44.6	1903	48.2	44.9	42.7	40.8
1874	95.3	94.5	86.2	84.8	1904	63.1	60.7	59.1	58.9
1875	57.5	54.6	50.3	46.2	1905	59.0	55.8	54.4	54.3
1876	60.3	57.5	49.6	48.3					
1877	90.8	89.8	84.9	82.8	1906	72.3	66.2	66.1	64.0
					1907	37.4	35.7	33.4	30.7
1878	97.9	96.2	87.7	91.3	1908	73.0	69.7	67.1	67.5
1879	62.3	56.4	.....	52.4					
1880	85.4	81.9	80.6	80.6	1909	54.1	50.0	45.4	43.6
1881	65.6	63.2	54.7	48.0	1910	62.0	62.1	61.3	64.0
1882	80.0	85.7	79.9	77.7	1911	52.1	44.6	42.7	44.3
					1912	63.7	68.5	65.7	68.4
1883	67.0	67.0	59.3	55.6	1913	55.7	52.3	48.2	47.6
1884	73.0	71.3	66.5	56.1					
1885	76.7	71.1	65.7	72.7	1909–1913	57.5	55.5	52.7	53.6
1886	60.5	67.2	60.2	60.4					
1887	70.9	66.9	60.3	54.1	1914	61.7	56.2	55.9	63.0
					1915	75.8	73.0	72.2	78.6
1888	83.6	79.8	78.3	79.2	1916	55.4	52.2	48.5	45.5
1889	85.4	85.0	81.5	74.4	1917	60.5	55.2	52.9	52.6
1890	47.8	37.5	28.0	26.9					
1891	78.2	79.9	77.4	79.3	1918	52.0	46.5	45.6	44.7
1892	68.2	58.6	54.6	49.5	1919	73.1	69.0	66.7	70.8
					1920	64.9	61.8	60.7	61.2
1893	77.9	71.0	62.0	58.7					
1894	39.9	24.3	22.3	21.1	1914–1920	63.3	59.1	57.5	59.5
1895	66.0	66.4	83.3	84.1					
1896	64.7	51.8	48.1	42.8	1921	45.6	42.8	42.6	46.7
1897	67.0	62.5	58.0	60.5	1922	77.1	74.3	74.7	78.1
					1923	66.7	63.5	61.3	61.2

Division of Crop and Livestock Estimates.

TABLE 217.—*Peaches: Carlot shipments, by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	7,308	1,057	1,434	4,666	2,840	6,862	2,764
New Jersey	1,218	748	1,148	1,307	5	1,595	1,758
Pennsylvania	879	257	366	316	45	268	554
Virginia	125	63	137	370	.....	265	70
West Virginia	990	322	425	458	.....	19	177
North Carolina	65	56	66	343	589	1,452	250
Georgia	4,098	7,995	7,236	5,663	10,636	7,368	8,717
Michigan	445	76	270	2,275	198	1,650	994
Tennessee	10	152	116	149	218	248	53
Texas	825	1,579	1,940	62	964	25	102
Oklahoma	278	244	866	.....	42	155	94
Arkansas	1,597	190	2,335	20	596	1,521	747
Colorado	1,347	1,111	1,334	773	1,219	1,420	1,264
Utah	1,146	577	1,102	402	839	1,261	1,174
Washington	1,920	647	2,219	204	1,097	990	1,611
California	2,858	4,518	7,846	7,354	7,606	9,085	10,059
All other	2,128	817	2,083	2,605	406	4,107	2,766
Total	27,237	20,409	30,923	26,967	27,300	38,291	33,154

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 218.—*Peaches: Monthly carlot shipments, by States, 1917–1923.*

State and calendar year.	May.	June.	July.	Aug.	Sept.	Oct.	Total.
New York:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917					4,292	[1] 3,016	7,308
1818				18	999	40	1,057
1919			5	97	1,289	43	1,434
1920				22	3,442	1,202	4,666
1921				1,663	1,173	4	2,840
1922			3	106	5,953	800	6,862
1923				10	2,138	616	2,764
Georgia:							
1917	37	1,076	2,983	2			4,098
1918	1,036	3,511	3,438	10			7,995
1919	295	3,073	3,863	5			7,236
1920	41	1,315	4,157	150			5,663
1921	1,402	3,659	5,564	11			10,636
1922	682	3,002	3,681	3			7,368
1923	1	2,238	5,898	580			8,717
Arkansas:							
1917		10	1,009	485	3		1,507
1918			179	11			190
1919	2		1,375	956	2		2,335
1920				20			20
1921	2	3	591				596
1922		5	1,264	252			1,521
1923		2	198	547			747
Colorado:							
1917				51	922	374	1,347
1918			5	670	434	2	1,111
1919				860	470	4	1,334
1920				62	708	3	773
1921				554	659	6	1,219
1922				455	965		1,420
1923				567	695	2	1,264
California:							
1917	1	154	173	2,136	361	33	2,858
1918	1	201	762	2,396	1,122	36	4,518
1919	4	205	1,520	4,363	1,753	1	7,846
1920	2	222	2,314	3,186	1,624	6	7,354
1921		43	1,672	4,231	1,652	8	7,606
1922		64	127	5,258	3,352	284	9,085
1923		110	4,367	3,842	1,691	49	10,059
All other:							
1917	3	54	894	3,069	5,453	[2] 556	10,029
1918	82	309	1,952	2,080	1,070	45	5,538
1919	27	235	2,453	4,996	2,971	56	10,738
1920	2	51	410	2,844	4,754	[3] 430	8,491
1921	25	307	1,560	865	1,632	14	4,403
1922	13	113	2,465	5,812	3,508	124	12,035
1923		34	392	4,205	4,882	90	9,603
Total shipments:							
1917	41	1,294	5,149	5,743	11,031	[3] 3,979	27,237
1918	1,119	4,021	6,336	5,185	3,625	123	20,409
1919	328	3,513	9,216	11,277	6,485	104	30,923
1920	45	1,588	6,881	6,284	10,528	[2] 1,641	26,967
1921	1,429	4,012	9,387	7,324	5,116	32	27,300
1922	695	3,184	7,540	11,886	13,778	1,208	38,291
1923	1	2,384	10,855	9,751	9,406	757	33,154

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] Includes 8 cars in November. [2] Includes 3 cars in November. [3] Includes 11 cars in November.

TABLE 219.—*Peaches: Farm price per bushel, 15th of month, United States, 1910–1923.*

Calendar year.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Weighted average.	Calendar year.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Weighted average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*		*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	------	------	110.9	115.1	122.8	113.3	1917	170.3	144.8	143.3	143.8	160.6	148.0
1911	135.0	151.0	138.0	129.0	131.0	138.2	1918	165.1	169.4	178.9	185.3	193.2	176.6
1912	119.2	112.1	108.3	110.0	105.0	111.2	1919	191.1	201.6	199.6	205.7	211.7	200.9
1913	------	130.5	126.2	136.3	145.0	131.3	1920	236.8	226.9	235.0	219.8	244.2	228.9
1914	------	120.4	105.0	202.2	105.3	108.7	1921	189.3	205.3	216.3	227.5	244.3	213.5
1915	------	99.5	85.4	81.1	85.2	88.2	1922	172.0	161.4	143.7	143.5	150.4	152.3
1916	119.6	109.1	114.9	118.3	112.1	115.0	1923	178.6	181.4	171.8	173.0	183.0	175.8

Division of Crop and Livestock Estimates.

TABLE 220.—*Peaches: Average jobbing prices per 6-basket carrier and per bushel at 10 markets, 1921–1923.*

Market, and calendar year.	6-basket carriers.				Bushels.					
	May.[1]	June.	July.	Aug.	May.[1]	June.	July.	Aug.	Sept.	Oct.[2]
New York:										
1921		$3.34	$3.04	$5.00			$2.62			
1922	$3.72	3.05	2.57	2.16			2.29	$1.90	$1.78	$1.43
1923		3.31	2.10	2.03			2.18	2.16	2.48	1.94
Chicago:										
1921		2.47	2.95	4.23		$2.74	3.20			
1922	3.50	2.72	2.65			2.76	2.51	1.91	1.70	1.38
1923		2.79	2.39	2.56			2.76	3.06	2.11	2.25
Philadelphia:										
1921		2.73	2.86	4.28			2.07			
1922	2.81	2.65	2.44	2.14				1.88	1.60	1.67
1923		2.98	2.24	2.70					2.08	2.18
Pittsburgh:										
1921		2.59	2.87	4.29			3.38			
1922	3.50	2.78	2.58	2.20			2.89	2.47	1.62	1.84
1923		3.15	2.22	2.75			2.32	2.79	2.01	2.09
St. Louis:										
1921		2.84	3.12	4.74			3.27			
1922		2.74	2.48			2.50	2.59	1.89	1.95	1.54
1923		2.35	2.17	3.01			2.65	3.39	2.46	
Cincinnati:										
1921		2.27	2.78			2.42	3.02			
1922		2.21	2.13		$2.50	2.05	2.59	2.17	1.69	1.90
1923		2.55	1.96	2.20			2.28	3.21	2.35	2.31
St. Paul:										
1921										
1922								2.17	2.03	1.70
1923										
Minneapolis:										
1921										
1922			2.49					2.21	1.99	1.56
1923									2.53	2.20
Kansas City:										
1921		2.59				4.04	3.29			
1922		2.60	2.58				2.48	2.15	1.99	1.01
1923			2.55					3.24	2.25	1.98
Washington:[3]										
1921		3.04	3.29	4.75						
1922		3.07	2.43	2.27				2.55	2.30	2.07
1923		3.90	2.64	2.68				3.12	2.48	2.20

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

[1] Quotations began May 25, 1922.
[2] Last quotation Oct. 11, 1922, and Oct. 13, 1923.
[3] Sales direct to retailers, except September and October, 1923, for bushels.

PEARS.

TABLE 221.—*Pears: Production, United States, 1909–1923.*

Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production.
	Bushels.		*Bushels.*		*Bushels.*
1909	*8,841,000*	1914	12,086,000	1919	15,006,000
1910	10,431,000	1915	11,216,000	1920	16,805,000
1911	11,450,000	1916	11,874,000	1921	11,207,000
1912	11,843,000	1917	13,281,000	1922	20,705,000
1913	10,108,000	1918	13,362,000	1923	17,390,000

Division of Crop and Livestock Estimates. Census figures in italics.

TABLE 222.—*Pears: Production and farm prices, by States, calendar years, 1919–1923.*

State.	Total crop, thousands of bushels.					Farm price per bushel Nov. 15—				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923
						Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Maine	14	10	15	14	7	240	225	200	200	200
New Hampshire	17	18	17	24	12	240	225	250	200	200
Vermont	10	10	6	10	6	240	280	330	220	225
Massachusetts	84	83	45	84	58	240	250	300	147	220
Rhode Island	11	11	6	12	10	240	250	150	100	250
Connecticut	57	61	50	60	37	240	250	200	100	225
New York	1,830	2,700	1,650	3,200	1,000	240	105	170	65	188
New Jersey	402	690	185	405	662	140	110	150	80	100
Pennsylvania	421	845	220	576	612	230	130	245	100	121
Delaware	98	140	9	158	370	150	25	200	25	50
Maryland	287	421	35	256	374	130	60	200	50	100
Virginia	288	428	30	270	200	160	95	200	100	136
West Virginia	40	66	2	38	41	230	175	300	160	130
North Carolina	120	208	100	110	65	210	161	182	130	171
South Carolina	99	120	115	104	88	220	150	150	120	130
Georgia	178	173	171	202	192	180	145	165	105	116
Florida	43	24	40	50	35	180	150	125	100	125
Ohio	157	478	126	450	332	260	120	275	80	106
Indiana	107	375	70	300	334	180	99	196	75	75
Illinois	375	603	100	510	307	170	125	270	100	94
Michigan	405	1,041	532	1,500	900	180	90	175	80	107
Wisconsin	20	24	16	19	16	190	175	320	80	131
Iowa	30	90	5	75	62	190	145	600	124	111
Missouri	431	418	4	450	475	140	150	250	105	95
Nebraska	25	22	2	27	24	250	275	300	140	206
Kansas	221	41	7	243	134	170	215	275	140	161
Kentucky	55	132	4	150	70	180	195	233	155	132
Tennessee	115	200	65	180	83	200	165	205	120	162
Alabama	163	158	180	176	174	160	164	137	133	152
Mississippi	125	167	167	190	90	160	200	132	125	150
Louisiana	59	47	38	48	45	125	175	229	171	170
Texas	637	338	406	390	340	140	231	190	117	157
Oklahoma	250	42	36	197	100	190	300	200	150	175
Arkansas	128	42	39	100	45	170	190	160	160	200
Montana	6	6	7	8	8	300	200	300	100	200
Colorado	345	386	502	519	400	220	190	220	75	156
New Mexico	67	32	24	18	49	230	250	250	150	240
Arizona	20	12	16	18	18	380	250	300	125	240
Utah	76	87	81	98	64	250	250	250	106	132
Nevada	4	5	3	4	7	250	300	250	150	190
Idaho	49	58	55	72	72	175	276	200	175	176
Washington	1,781	1,140	1,710	1,740	2,600	170	130	170	134	110
Oregon	761	760	836	1,400	1,540	150	175	150	140	108
California	4,600	4,080	3,570	6,250	5,332	180	275	170	120	120
United States	15,006	16,805	11,297	20,705	17,390	184.0	165.8	170.6	106.0	121.1

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 223.—*Pears: Condition of crop, United States, 1st of month, 1908–1923.*

Calendar year.	June.	July.	Aug.	Sept.	Oct.	Per cent of a full crop.	Calendar year.	June.	July.	Aug.	Sept.	Oct.	Per cent of a full crop.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1908	70.9	69.7	70.6	74.1	75.0	73.3	1916	66.6	60.8	59.0	61.2	61.8	61.8
							1917	77.1	66.2	61.9	65.3	66.3	68.2
1909	61.8	57.5	55.0	53.6	54.2	54.3							
1910	63.2	61.0	61.3	63.9	64.7	66.3	1918	62.7	58.2	56.4	60.3	60.6	62.1
1911	65.1	60.4	59.5	64.0	66.9	71.9	1919	66.3	60.6	60.5	66.8	68.0	68.2
1912	70.9	66.2	65.0	70.8	71.8	73.3	1920	73.4	68.4	71.0	76.1	78.5	82.9
1913	59.7	55.9	55.4	59.1	58.1	61.8							
							Average 1914–1920	69.1	62.7	61.7	66.3	67.5	69.0
Average 1909–1913	64.1	60.2	59.2	62.3	63.1	65.5							
							1921	43.8	40.9	41.7	45.3	48.1	48.2
1914	68.4	62.4	60.9	67.4	69.5	73.0	1922	72.8	69.8	73.0	77.4	80.2	86.3
1915	69.2	62.3	62.0	66.8	67.8	66.8	1923	68.6	63.2	61.8	64.0	66.4	68.8

Division of Crop and Livestock Estimates.

TABLE 224.—*Pears: Carlot shipments, by States of origin, 1917–1922.*

State.	Year beginning June 1.					
	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	1,746	1,226	1,506	3,962	2,855	5,418
New Jersey	62	52	121	42	21	40
Delaware	461	413	55	267	----------	151
Maryland	54	43	18	36	----------	36
Ohio	29	47	5	54	17	96
Idianna	45	11	49	78	----------	44
Illinois	334	97	324	1,140	----------	468
Michigan	696	343	127	1,142	610	1,860
Texas	18	127	100	88	96	47
Colorado	382	347	524	604	733	774
Utah	27	34	25	75	31	82
Washington	1,700	2,421	2,452	1,906	2,827	2,678
Oregon	699	799	930	847	974	1,862
California	5,191	4,002	3,661	4,594	4,431	6,461
All other	170	208	257	202	142	314
Total	11,614	10,170	10,154	15,037	12,737	20,331

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 225.—*Pears: Farm price per bushel, 15th of month, United States, 1910–1923.*

Calendar year.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Weighted aver. crop year.	Calendar year.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Weighted aver. crop year.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*		*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	------	100.9	98.6	100.8	122.4	100.9	1917	132.2	125.0	118.2	116.1	------	127.4
1911	118.0	103.8	97.2	85.1	111.0	109.3	1918	168.4	157.8	147.5	140.1	156.6	161.1
1912	106.3	100.0	83.1	79.3	92.8	100.4	1919	188.4	183.0	181.3	182.0	219.5	185.7
1913	109.9	119.3	95.6	93.0	97.9	111.2	1920	195.5	197.9	184.2	170.0	164.5	194.1
1914	98.8	92.8	80.4	77.5	82.5	93.7	1921	165.2	175.1	186.4	194.9	198.7	172.2
1915	80.8	83.8	82.7	89.8	89.7	82.5	1922	147.1	------	116.2	119.8	118.7	139.7
1916	109.0	102.7	96.9	93.3	105.6	104.8	1923	168.3	172.5	165.1	150.2	------	--------

Division of Crop and Livestock Estimates.

STRAWBERRIES.

TABLE 226.—*Strawberries: Carlot shipments by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	210	242	112	362	244	328	290
New Jersey	829	445	326	559	425	274	187
Delaware	2,340	822	430	640	856	940	924
Maryland	2,193	838	611	787	1,009	1,646	1,916
Virginia	1,352	342	208	349	697	1,670	1,193
North Carolina	696	585	484	446	479	1,101	1,667
Florida	193	79	21	153	108	322	1,035
Illinois	347	125	80	98	74	260	249
Michigan	475	272	391	439	455	640	408
Missouri	673	620	1,081	318	466	1,963	872
Kentucky	676	410	132	239	387	772	826
Tennessee	1,781	1,234	1,099	1,182	1,693	3,607	3,289
Alabama	196	279	229	147	285	460	693
Louisiana	1,100	556	682	858	1,531	1,576	1,678
Arkansas	1,096	651	1,034	896	1,094	2,165	1,342
California	245	509	703	569	291	201	193
All other	663	443	482	448	541	791	1,134
Total	15,065	8,452	8,105	8,490	10,695	18,716	17,896

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 227.—*Strawberries: Average jobbing prices per quart at 10 markets, 1921–1923.*

Market, and calendar year.	Mar.[1]	Apr.	May.	June.[2]	Market, and calendar year.	Mar.[1]	Apr.	May.	June.[2]
New York:					Cincinnati:				
1921	$0.47	$0.41	$0.27	-------	1921	$0.33	$0.27	$0.23	-------
1922	.60	.37	.21	$0.16	1922	.53	.18	.12	-------
1923	.65	.43	.20	.18	1923	.48	.30	.15	$0.10
Chicago:					St. Paul:				
1921	.31	.37	.24	-------	1921	.38	.44	.28	-------
1922	.45	.29	.14	.12	1922	-------	.30	.19	.16
1923	.45	.41	.20	.15	1923	-------	.44	.25	.20
Philadelphia:					Minneapolis:				
1921	.33	.34	.23	-------	1921	.37	.41	.31	-------
1922	.53	.32	.18	.17	1922	-------	.29	.18	.14
1923	.55	.40	.18	.15	1923	.58	.45	.26	.19
Pittsburgh:					Kansas City:				
1921	.34	.34	.26	-------	1921	.33	.36	.23	-------
1922	.50	.34	.17	.18	1922	-------	.31	.16	.13
1923	.62	.41	.22	.16	1923	.46	.40	.21	.16
St. Louis:					Washington:[3]				
1921	.31	.33	.23	-------	1921	.50	.35	.22	-------
1922	.54	.26	.14	.16	1922	.55	.27	.20	.14
1923	.49	.40	.18	-------	1923	.42	.34	.17	.11

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Quotations began Mar. 23, 1922, and Mar. 28, 1923
[2] Last quotation June 6, 1922, and June 13, 1923.
[3] Sales direct to retailers.

CABBAGE.

TABLE 228.—*Cabbage: Commercial acreage, yield per acre, and production, in carloads containing 12.5 tons each, 1921–1923.*

State.	Acreage.			Yield per acre.			Production.		
	1921	1922	1923[1]	1921	1922	1923	1921	1922	1923[1]
Early:	*Acres.*	*Acres.*	*Acres*	*Tons.*	*Tons.*	*Tons.*	*Cars.*	*Cars.*	*Cars.*
California	7,320	7,320	5,300	7.0	6.0	7.0	4,099	3,514	2,968
Florida	5,370	11,280	2,070	6.0	7.0	8.0	2,578	6,317	1,325
Louisiana	1,580	1,670	1,640	6.4	6.0	4.5	809	802	590
Texas	11,210	14,880	4,070	4.0	5.0	5.0	3,587	5,952	1,628
Total	25,480	35,150	13,080	5.4	5.9	6.2	11,073	16,585	6,511
Intermediate:									
Alabama	1,600	2,200	2,200	8.0	8.5	7.5	1,024	1,496	1,320
Georgia	250	520	220	7.0	5.0	5.5	140	208	97
Illinois	1,620	1,880	1,400	5.0	8.0	5.0	648	1,203	560
Iowa	600	1,840	1,200	5.0	8.0	5.5	240	1,178	528
Kentucky	350	300	300	6.0	6.0	5.0	168	144	120
Maryland	2,000	2,750	2,000	4.8	5.0	6.0	791	1,100	950
Mississippi	1,420	4,640	4,240	6.0	5.0	3.5	682	1,856	1,187
Missouri	700	700	800	8.1	7.0	6.0	454	392	364
New Jersey	4,220	4,500	4,100	6.5	8.0	5.5	2,194	2,880	1,804
New Mexico	130	400	300	8.0	9.0	7.0	83	288	168
New York (L. I.)	4,150	4,500	4,200	6.6	11.0	7.0	2,191	3,960	2,352
North Carolina	450	350	440	6.5	6.0	7.5	234	168	274
South Carolina	3,970	4,100	3,450	9.7	7.5	11.5	3,081	2,460	3,174
Tennessee	720	1,500	1,200	6.1	7.0	7.0	351	840	672
Virginia (Norfolk and Eastern Shore	4,200	3,500	3,750	8.8	8.0	6.0	2,957	2,240	1,800
Washington	920	950	890	8.0	9.0	8.0	589	684	570
Total	27,360	34,630	30,690	7.2	7.6	6.5	15,827	21,097	15,960
Late:									
Colorado	4,000	5,240	5,270	11.7	12.0	11.0	3,744	5,030	4,638
Indiana	1,090	1,660	1,300	6.0	7.0	10.0	523	930	1,040
Michigan	1,990	3,570	3,290	6.5	11.0	9.8	1,035	3,142	2,579
Minnesota	2,740	3,840	3,260	5.0	9.0	7.5	1,096	2,765	1,955
New York	22,900	24,900	22,680	6.5	9.0	7.5	11,908	17,928	13,608
Ohio	2,360	2,870	3,220	5.7	8.2	8.5	1,076	1,883	2,190
Oregon	780	900	900	9.5	7.0	5.0	593	504	360
Pennsylvania	2,720	2,800	2,750	6.0	7.0	5.0	1,306	1,568	1,100
Virginia (southwest)	2,500	2,670	2,620	6.0	9.0	7.0	1,200	1,922	1,467
Wisconsin	10,660	16,560	13,340	6.0	11.0	9.5	5,117	14,573	10,138
Total	51,740	65,010	58,630	6.7	9.7	8.3	27,598	50,245	39,076
Grand total	104,580	134,790	102,400	6.5	8.2	7.5	54,498	87,927	61,547

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 229.—*Cabbage: Carlot shipments, by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York, Long Island	118	111		36	13		
New York, other	4,999	8,357	[1] 7,300	7,006	[1] 9,543	9,766	[1] 8,838
Pennsylvania	94	160	383	239	291	348	291
Maryland	171	63	254	260	325	448	220
Virginia	1,891	1,927	1,508	1,532	3,595	2,939	3,331
South Carolina	663	1,867	1,172	1,087	3,285	3,365	4,313
Florida	1,413	3,782	1,537	4,745	1,518	3,002	1,216
Ohio	546	578	283	342	335	590	497
Illinois	65	267	161	146	102	144	407
Michigan	524	420	385	335	472	871	614
Wisconsin	2,815	3,334	3,508	4,179	3,355	5,452	5,630
Minnesota	582	1,010	961	834	590	1,156	797
Iowa	453	389	205	374	144	560	351
Kentucky	96	121	185	128	98	73	106
Tennessee	51	117	175	141	176	563	271
Alabama	87	860	421	265	940	1,366	1,561
Mississippi	281	1,128	566	884	577	1,629	1,134
Louisiana	150	258	188	233	313	349	448
Texas	931	304	1,437	4,828	1,757	3,996	1,364
Colorado	2,485	1,960	2,323	1,656	2,580	1,889	3,103
California	1,412	1,078	1,395	1,247	845	737	683
All other	527	560	635	523	871	809	890
Total	20,354	28,661	24,982	31,020	31,718	40,065	36,068

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] Long Island included with New York, other, in 1919, 1921, and 1923

TABLE 230.—*Cabbage: Farm price per 100 pounds, 15th of month, United States, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910–11	2.27	1.89	1.94	1.58	1.36	1.49	1.56	1.48	1.26	1.33	1.38	2.46	1.57
1911–12	2.93	2.47	1.94	1.58	1.51	1.83	1.89	2.24	2.88	3.17	2.98	2.67	2.23
1912–13	2.20	1.88	1.25	1.08	1.04	1.15	1.26	1.17	1.03	1.15	1.58	2.18	1.28
1913–14	2.64	2.15	1.79	1.69	1.58	1.75	1.87	2.07	2.03	2.24	2.05	2.61	1.95
Av. 1910–1913	2.53	2.10	1.73	1.48	1.37	1.56	1.64	1.74	1.80	1.97	2.00	2.48	1.76
1914–15	2.66	1.74	1.50	1.31	1.14	1.26	1.36	1.41	1.38	1.49	2.53	2.34	1.60
1915–16	1.95	1.61	1.24	1.00	.97	1.07	1.17	1.21	1.38	1.50	1.93	2.27	1.33
1916–17	2.15	2.26	2.17	2.40	2.61	3.04	3.95	5.65	6.77	7.61	7.53	5.10	4.45
1917–18	3.23	2.19	1.76	1.79	2.66	2.28	2.74	3.26	2.86	2.98	3.23	3.55	2.62
1918–19	3.41	2.96	2.45	2.16	1.99	2.05	2.19	2.33	2.71	3.79	4.97	4.68	2.83
1919–20	4.23	3.73	3.08	2.88	2.74	3.49	4.31	5.05	5.25	5.59	6.75	5.47	4.31
1920–21	4.71	3.28	2.03	1.95	1.67	1.77	1.91	1.86	1.71	2.03	3.10	4.04	2.19
Av. 1914–1920	3.19	2.54	2.03	1.93	1.97	2.14	2.52	2.97	3.15	3.64	4.29	3.92	2.76
1921–22	3.95	3.16	2.61	2.39	2.42	2.77	3.05	3.09	5.02	3.10	3.68	3.36	2.92
1922–23	2.90	2.12	1.72	1.55	1.46	1.63	2.11	2.42	3.00	3.62	4.01	4.11	2.44
1923–24	3.85	3.20	2.90	2.59	2.12	2.30	-----	-----	-----	-----	-----	-----	-----

Division of Crop and Livestock Estimates.

TABLE 231.—*Cabbage, Danish: Range and average jobbing prices, per 100 pounds, at 10 markets, 1920–1923.*

Market, and year beginning October 1.	October.		November.		December, average.	January, average.	February.		March.	
	Range.	Average.	Range.	Average.			Range.	Average.	Range.	Aver. age.
New York:										
1920–21	$0.88–$1.00	$0.99	$0.75–$1.13	$0.94	$0.76	$1.00	$0.68–$0.83	$0.73	$0.68–$0.95	$0.81
1921–22	1.82–2.05	1.98	1.78–2.40	2.08	2.49	2.60	1.75–2.25	2.02	1.75–2.50	2.11
1922–23	.90–1.25	1.01	.50–1.25	.79	1.18	1.33	1.60–3.00	2.08	2.25–3.50	3.16
1923–24	1.10–1.60	1.33	.75–1.40	1.01	1.36					
Chicago:										
1920–21			.43–.73	.52	.70	.92	.47–.83	.71	.30–.78	.64
1921–22	1.75–2.25	2.02	2.00–3.25	2.47	2.59	2.21	1.50–2.15	1.83		
1922–23			.75–1.10	.83	1.21	1.51	1.90–3.75	2.40	1.70–3.50	3.01
1923–24			.50–1.20	.85	1.13					
Philadelphia:										
1920–21	.70–1.00	.81	.55–1.18	.82	.62	.93	.55–.80	.69	.55–.83	.69
1921–22	1.50–2.00	1.87	1.50–2.38	1.91	2.42	2.39	1.25–2.25	1.77	2.00–2.50	2.22
1922–23	.75–1.10	.87	.35–1.15	.71	1.09	1.25	1.25–3.00	1.78	1.00–3.75	2.38
1923–24	1.00–1.65	1.32	.75–1.25	.95	1.27					
Pittsburgh:										
1920–21	.88–1.40	1.12	.70–1.50	1.00	.69	1.04	.70–.95	.80	.55–.78	.66
1921–22	2.15–2.75	2.48	2.25–2.88	2.57	2.67	2.58	1.90–2.75	2.21	1.75–2.75	2.30
1922–23	1.50–2.50	1.91	.40–1.50	.86	1.57	1.25	1.25–3.50	2.06	2.50–4.50	3.16
1923–24	1.15–2.00	1.51	.75–1.40	1.10	1.34					
St. Louis:										
1920–21					.91	1.12	.75–1.25	.99	.63–1.25	.96
1921–22	1.69–2.75	2.15	1.81–2.50	2.30	2.65	2.57	1.50–2.25	2.02		
1922–23					1.30	1.37	2.00–4.25	2.84	2.75–4.50	3.32
1923–24			.60–1.50	1.08	1.39					
Cincinnati:										
1920–21			.55–1.33	.96	.72	1.03	.95–1.18	1.05	.50–1.13	.82
1921–22	1.50–2.62	2.14	1.50–2.50	2.10	2.73	2.59	1.75–2.50	2.32		
1922–23	.90–1.40	1.21	.50–1.00	.71	1.31	1.46	1.85–3.50	2.31	2.50–3.75	3.18
1923–24	1.25–1.90	1.58	.90–1.50	1.16	1.39					
St. Paul:										
1921–22						3.34	2.50	2.50		
Minneapolis:										
1921–22						3.32				
Kansas City:										
1920–21					1.05	1.39	.75–1.50	1.05	.50–1.00	.78
1921–22	1.50–2.50	2.09	1.75–3.25	2.61	3.15	3.26	2.00–2.75	2.43		
1922–23	.60–1.25	.90	.50–.85	.66	1.22	1.62	2.00–4.00	2.85	3.25–5.00	3.84
1923–24	.90–1.50	1.18	.90–1.50	1.07	1.24					
Washington:										
1920–21[1]						1.93	1.25–1.50	1.47	1.00–1.50	1.25
1921–22[1]			2.00–3.00	2.53	3.03	3.41	2.50–4.00	3.01		
1922–23[1]	1.50–2.25	1.97	1.00–2.00	1.43	1.82	1.88	2.00–3.00	2.47		
1923–24	1.75–2.50	1.96	1.25–2.00	1.44	1.68					

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Sales direct to retailers.

CANTALOUPES.

TABLE 232.—*Cantaloupes: Carlot shipments by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
Delaware	702	429	590	581	943	843	818
Maryland	855	496	835	771	1,206	1,233	1,271
North Carolina	1,106	418	523	359	821	700	619
South Carolina	157	31	100	110	299	270	70
Georgia	789	551	314	389	640	1,632	222
Indiana	664	443	462	635	644	894	653
Michigan	42	37	204	209	176	465	302
Arkansas	797	699	1,106	986	1,501	990	336
Colorado	1,898	1,818	3,132	2,454	3,215	4,420	2,314
New Mexico	227	256	378	937	421	275	386
Arizona	1,215	1,169	1,832	1,164	1,474	1,558	1,209
Washington	145	110	100	329	209	371	199
California	8,258	6,848	12,010	13,100	13,177	15,304	16,390
All other	575	320	453	403	843	962	1,022
Total	17,430	13,619	22,089	22,377	25,569	29,917	25,791

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

CELERY.

TABLE 233.—*Celery: Carlot shipments by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	1,563	1,614	1,523	2,675	3,110	3,347	3,496
New Jersey	108	155	177	105	216	119	213
Pennsylvania	143	199	33	176	225	212	224
Florida	2,222	2,461	2,051	3,010	4,172	4,955	6,409
Michigan	436	461	598	604	1,013	1,612	1,372
Colorado	183	225	212	283	211	222	115
California	1,877	2,262	1,796	2,384	3,405	3,474	4,473
All other	45	35	59	71	131	210	285
Total	6,577	7,412	6,449	9,308	12,483	14,151	16,587

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

CANNED CORN.

TABLE 234.—*Corn, canned: Production in the United States, calendar years, 1905–1923.*

State.	1905	1906	1907	1908	1909	1910
	Cases.[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]
Maine	1,348,751	939,698	1,090,624	970,000	698,000	1,487,000
Vermont				[2]	[2]	[2]
New York	1,583,969	1,422,012	659,391	620,000	634,000	1,145,000
Pennsylvania	220,022	199,920	68,570	[2]	[2]	[2]
Delaware	95,300	110,040	75,000	[2]	[2]	[2]
Maryland [3]	1,676,240	1,058,492	875,506	1,010,000	432,000	970,000
Ohio	1,140,631	648,796	361,560	933,000	677,000	936,000
Indiana	1,025,606	621,433	380,778	301,000	405,000	746,000
Illinois	1,963,617	1,243,106	1,319,525	856,000	1,134,000	2,027,000
Michigan	145,152	119,300	68,300	[2]	[2]	[2]
Wisconsin	443,055	441,711	169,120	343,000	422,000	222,000
Minnesota	272,000	190,933	123,945	124,000	78,000	200,000
Iowa	2,557,104	1,815,900	1,248,725	1,085,000	902,000	1,720,000
Missouri	47,100	29,100	18,600	[2]	[2]	[2]
Nebraska	441,000	251,300	164,000	[2]	[2]	[2]
Kansas	53,887	32,819	23,400	[2]	[2]	[2]
All other	5,231	12,400	7,000	542,000	405,000	610,000
United States	13,018,665	9,136,960	6,654,044	6,784,000	5,787,000	10,063,000

State.	1911	1912	1913	1914	1915	1916
Maine	1,545,000	801,000	650,000	1,114,000	942,000	782,000
New York	1,700,000	1,009,000	393,000	771,000	1,016,000	280,000
Maryland	[3] 1,673,000	1,517,000	1,023,000	1,364,000	1,609,000	1,448,000
Ohio	1,412,000	1,376,000	984,000	1,203,000	1,144,000	930,000
Indiana	796,000	1,235,000	785,000	694,000	785,000	797,000
Illinois	2,771,000	2,438,000	1,330,000	1,515,000	2,081,000	1,540,000
Wisconsin	351,000	519,000	377,000	342,000	208,000	322,000
Minnesota	301,000	321,000	188,000	224,000	121,000	278,000
Iowa	2,744,000	2,961,000	884,000	1,573,000	1,223,000	1,730,000
All other	1,044,000	932,000	669,000	989,000	995,000	1,023,000
United States	14,337,000	13,109,000	7,283,000	9,789,000	10,124,000	9,130,000

State.	1917	1918	1919	1920	1921	1922	1923
Maine	566,498	1,112,912	1,652,000	1,588,000	911,000	1,066,000	923,000
New York	257,296	488,912	1,014,000	829,000	564,000	616,000	434,000
Maryland	2,001,544	2,032,944	2,081,000	2,217,000	1,130,000	1,944,000	2,256,000
Ohio	1,200,131	1,584,064	1,360,000	1,544,000	850,000	1,073,000	1,390,000
Indiana	742,491	512,688	586,000	861,000	709,000	665,000	1,208,000
Illinois	2,421,953	2,199,344	2,225,000	2,271,000	1,711,000	1,939,000	2,833,000
Wisconsin	165,492	372,924	635,000	590,000	576,000	625,000	648,000
Minnesota	201,969	309,136	456,000	643,000	573,000	598,000	898,000
Iowa	2,280,366	2,300,241	2,496,000	3,246,000	1,190,000	1,959,000	2,382,000
All other	965,275	808,695	1,045,000	1,251,000	629,000	934,000	1,134,000
United States	10,803,015	11,721,860	13,550,000	15,040,000	8,843,000	11,419,000	14,106,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

[1] Stated in cases of 24 No. 2 cans. [2] Included in all other. [3] Includes Virginia.

LETTUCE.

TABLE 235.—*Lettuce: Carlot shipments by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	1,423	1,334	1,761	2,138	3,361	3,167	3,811
New Jersey	215	171	245	515	478	571	454
North Carolina	181	226	319	265	448	622	718
South Carolina	161	375	395	356	583	987	577
Florida	1,116	2,352	2,134	3,120	2,286	3,323	3,054
Texas	53	17	90	176	114	113	102
Arizona	64	64	41	165	166	678	1,044
Washington			19	345	632	812	1,081
California	2,013	2,051	2,731	6,350	9,746	9,744	15,148
All other	202	369	283	391	802	2,223	3,297
Total	5,428	6,959	8,018	13,821	18,616	22,240	29,286

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

ONIONS.

TABLE 236.—*Onions: Commercial acreage, yield per acre, and production, 1921–1923.*

State.	Acreage.			Yield per acre.			Production.		
	1921	1922	1923[1]	1921	1922	1923	1921	1922	1923[1]
Early (Bermuda):	*Acres.*	*Acres.*	*Acres.*	*Bush.*	*Bush.*	*Bush.*	*Cars.*[2]	*Cars.*[2]	*Cars.*[2]
California	2,000	2,950	1,340	245	320	297	980	1,888	796
Louisiana	1,010	1,100	1,100	206	300	106	416	660	233
Texas	10,500	11,920	12,680	207	197	129	4,347	4,696	3,271
Total	13,510	15,970	15,120	213	227	142	5,743	7,244	4,300
Intermediate:									
Iowa	1,240	1,610	1,540	205	380	365	508	1,224	1,124
Kentucky	1,000	1,000	1,000	300	225	298	600	450	596
New Jersey	2,380	2,360	2,290	250	250	194	1,190	1,180	889
Virginia	1,120	1,320	1,290	280	225	254	627	594	655
Washington	1,280	1,530	1,500	300	320	450	768	979	1,350
Total	7,020	7,820	7,620	263	283	303	3,693	4,427	4,614
Late:									
California	7,900	6,720	7,010	225	250	300	3,555	3,360	4,206
Colorado	1,300	1,900	2,360	300	280	250	780	1,064	1,180
Idaho	140	300	300	470	460	425	132	276	255
Illinois	1,040	1,250	1,080	210	300	289	437	750	624
Indiana	4,180	5,620	5,900	265	413	276	2,215	4,642	3,257
Massachusetts	4,500	4,560	3,360	280	275	345	2,520	2,508	2,318
Michigan	1,350	1,750	1,840	225	511	267	608	1,788	983
Minnesota	1,430	1,470	1,050	200	350	220	572	1,029	462
New York	7,280	7,740	7,390	300	270	418	4,368	4,180	6,178
Ohio	5,090	5,080	5,700	225	400	253	2,286	4,544	2,884
Oregon	870	880	600	300	300	295	522	528	354
Pennsylvania	340	350	280	270	380	200	184	266	112
Utah	120	250	400	440	400	375	106	200	300
Wisconsin	1,010	1,030	1,090	300	350	279	606	721	608
Total	36,540	39,500	38,360	258	327	309	18,891	25,856	23,721
Grand total	57,070	63,290	61,100	248	296	267	28,327	37,527	32,635

Division of Crop and Livestock Estimates.

[1] Preliminary.

[2] 500 bushels to car.

TABLE 237.—*Onions: Carlot shipments, by States of origin, 1917–1922.*

State.	Crop movement season, March 1 through June of succeeding year.					
	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
Massachusetts	2,766	2,883	2,835	3,834	2,224	1,912
New York	2,104	2,784	2,702	3,089	2,891	2,812
New Jersey	567	597	634	635	427	479
Virginia	158	95	133	181	140	371
Ohio	1,475	2,008	1,913	3,212	1,743	4,492
Indiana	1,204	1,817	1,005	3,448	1,834	4,682
Illinois	230	334	123	360	253	487
Michigan	253	590	224	795	417	1,867
Wisconsin	240	309	95	406	89	330
Minnesota	626	822	439	276	172	500
Iowa	708	968	488	870	411	918
Kentucky	177	195	339	303	361	267
Louisana	174	450	101	106	79	91
Texas [1]	5,896	3,575	2,876	5,080	4,208	4,629
Colorado	239	230	207	134	443	651
Washington	315	477	596	790	649	765
Oregon	196	238	202	19	347	263
California, northern district	2,835	3,627	4,887	3,169	2,657	2,376
California, southern district [1]	663	400	522	1,233	928	1,256
All other	215	150	228	277	434	610
Total	21,041	22,549	20,549	28,223	20,707	29,759

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] Shipments from Texas and from the southern district of California were principally Bermudas. For Texas various common varieties comprised approximately 80 cars in 1917–18, 60 in 1918–19, 40 in 1919–20, 101 in 1920–21, 172 in 1921–22 and 215 in 1922–23; for the southern district of California they comprised 26 in 1918–19, 178 in 1919–20, 50 in 1920–21, 30 in 1921–22, and 13 in 1922–23.

TABLE 238.—*Onions: Farm price per bushel, 15th of month, United States, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910–11	104.5	99.8	99.4	93.2	94.6	98.8	101.0	104.0	105.0	119.0	129.0	134.0	100.8
1911–12	122.0	116.0	104.0	102.0	103.0	113.0	117.0	140.0	167.0	175.0	177.0	155.0	123.6
1912–13	114.0	109.0	89.0	85.0	84.0	84.0	81.6	77.5	77.0	79.0	87.2	95.6	88.2
1913–14	101.7	105.1	103.9	110.2	114.9	114.9	121.0	140.7	155.2	159.2	152.6	140.8	124.0
Av. 1910–1913	110.6	105.2	99.1	97.6	99.1	102.7	105.2	115.6	126.0	133.0	136.4	131.4	109.2
1914–15	170.4	137.9	103.3	88.3	84.4	92.3	88.9	97.6	95.3	104.4	102.9	102.9	106.1
1915–16	93.0	86.3	82.8	94.8	94.8	99.6	113.2	126.3	130.3	123.5	123.3	133.8	104.5
1916–17	147.3	133.5	122.9	131.4	153.8	175.7	208.4	357.9	476.2	495.6	398.0	308.0	241.7
1917–18	201.0	154.7	142.9	157.5	174.6	177.0	178.9	183.2	147.0	134.1	134.7	138.7	156.7
1918–19	162.6	164.7	163.3	143.2	143.1	131.7	133.5	154.7	199.8	202.1	229.0	234.1	171.3
1919–20	232.0	225.8	195.4	196.4	212.5	245.8	280.9	307.3	325.6	344.2	337.0	284.2	257.0
1920–21	204.8	176.4	172.9	158.9	143.8	132.0	135.2	131.2	114.2	98.4	106.7	138.2	145.6
Av. 1914–1920	173.0	154.2	140.5	138.6	143.9	150.6	162.7	194.0	212.6	214.6	204.7	188.6	160.0
1921–22	147.7	159.1	168.5	180.6	219.9	245.2	263.8	325.3	365.7	469.6	331.4	270.9	252.5
1922–23	204.5	156.9	126.9	118.8	123.6	131.7	150.8	173.0	173.8	196.5	200.7	220.5	160.7
1923–24	207.7	185.2	179.3	185.6	174.6	178.4							

Division of Crop and Livestock Estimates.

TABLE 239.—*Onions: Average jobbing prices per 100 pounds, at 10 markets, 1920–1923.*

Market, and year beginning Aug. 1.	Various common varieties.								Bermudas.					
									Apr.		May.		June.[2]	
	Aug.[1]	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Yellow.	Crystal White Wax.	Yellow.	Crystal White Wax.	Yellow.	Crystal White Wax.
New York:														
1920–21	------	$2.24	$1.56	$1.55	$1.23	$1.31	$0.98	$0.80	$4.34	$3.46	$3.15	$3.79	$2.93	$3.01
1921–22	$2.80	3.43	5.06	5.63	5.45	7.34	8.25	8.21	7.66	6.20	4.14	3.79	3.91	3.54
1922–23	2.08	1.52	1.72	2.00	2.99	2.83	2.45	2.98	------	------	5.31	5.19	------	------
1923–24	2.68	3.21	3.26	2.75	2.76	------	------	------	------	------	------	------	------	------
Chicago:														
1920–21	------	1.94	1.59	1.56	1.31	1.16	.98	.93	3.48	4.37	2.79	3.73	2.53	3.27
1921–22	2.58	3.61	4.47	5.11	5.62	7.09	7.64	8.53	6.21	6.47	4.05	4.20	3.43	3.89
1922–23	2.12	1.61	1.70	2.22	2.29	2.56	3.44	3.38	5.96	------	5.15	5.79	------	------
1923–24	3.19	3.48	3.29	3.22	3.07	------	------	------	------	------	------	------	------	------
Philadelphia:														
1920–21	------	2.03	1.49	1.51	1.23	1.27	.98	.87	4.04	3.88	3.26	3.70	2.75	2.61
1921–22	3.02	3.80	4.80	5.34	5.52	6.93	8.09	8.98	7.03	6.00	4.13	4.04	4.07	------
1922–23	2.19	1.63	1.57	1.82	2.73	2.90	2.54	3.20	6.03	------	------	------	------	------
1923–24	3.07	3.45	3.09	2.73	2.61	------	------	------	------	------	------	------	------	------
Pittsburgh:														
1920–21	------	2.30	1.74	1.65	1.05	1.26	.89	.90	4.03	4.58	3.22	3.91	2.95	3.35
1921–22	3.05	3.82	4.86	5.44	5.57	6.73	7.89	8.89	6.81	7.17	4.52	5.29	3.54	3.88
1922–23	2.36	1.56	1.52	1.63	2.74	2.95	2.70	3.33	6.95	------	5.49	5.98	------	------
1923–24	2.98	3.50	3.34	2.73	2.46	------	------	------	------	------	------	------	------	------
St. Louis:														
1920–21	------	1.67	1.55	1.55	1.06	1.17	.91	.70	3.30	4.40	2.83	3.47	------	3.20
1921–22	2.95	3.70	4.88	5.45	5.68	6.97	7.90	8.52	5.95	5.67	3.17	4.19	3.37	------
1922–23	------	------	1.89	2.20	2.30	2.92	2.52	3.14	------	------	5.05	5.20	------	------
1923–24	2.55	3.45	3.45	3.23	3.05	------	------	------	------	------	------	------	------	------
Cincinnati:														
1920–21	------	1.76	1.48	1.45	1.30	1.25	1.13	.85	3.43	4.49	3.17	3.95	2.72	3.73
1921–22	2.92	3.74	5.19	5.59	5.45	6.90	8.29	8.63	5.93	6.44	4.67	------	3.40	3.76
1922–23	------	------	1.78	1.96	2.87	3.08	2.93	3.94	------	------	5.38	5.71	------	------
1923–24	2.94	3.43	3.04	2.60	2.56	------	------	------	------	------	------	------	------	------
St. Paul:														
1920–21	------	1.99	------	------	------	------	------	------	3.55	------	3.23	4.05	2.50	3.82
1921–22	2.85	3.49	4.92	4.83	4.44	6.42	7.75	8.61	------	------	4.39	4.52	3.12	3.35
1922–23	------	------	------	------	------	------	------	------	------	------	5.65	6.15	------	------
1923–24	------	3.35	3.66	3.11	2.71	------	------	------	------	------	------	------	------	------
Minneapolis:														
1920–21	------	2.12	------	------	------	------	------	------	4.02	4.66	3.38	4.11	2.49	4.05
1921–22	2.70	3.34	4.76	4.81	4.60	6.62	8.11	8.83	------	------	4.62	4.86	3.17	3.55
1922–23	------	------	------	------	------	------	------	------	------	------	5.90	6.21	------	------
1923–24	2.73	3.44	3.72	3.14	3.22	------	------	------	------	------	------	------	------	------
Kansas City:														
1920–21	------	1.98	1.68	1.67	1.52	1.35	1.13	.66	3.60	4.27	2.78	3.46	2.39	3.41
1921–22	2.97	3.60	4.38	5.40	5.42	6.94	8.06	8.50	6.56	6.92	3.91	4.46	2.76	3.29
1922–23	------	------	2.12	2.02	2.56	3.25	3.45	3.22	------	------	------	------	------	------
1923–24	262	348	3.65	3.30	2.96	------	------	------	------	------	------	------	------	------
Washington:														
1920–21[3]	------	2.61	1.95	1.92	1.86	1.88	1.53	1.35	5.67	------	4.21	------	3.45	------
1921–22[3]	3.64	4.27	4.93	5.93	5.78	7.10	8.01	9.55	8.00	7.36	------	5.17	4.36	4.36
1922–23[3]	2.64	2.07	1.75	2.72	2.77	3.38	3.30	3.58	------	------	6.07	------	------	------
1923–24	3.44	3.90	3.62	3.32	3.11	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple average of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Quotations began Aug. 22, 1921, and August 14, 1923.
[2] Last quotation June 14, 1922.
[3] Sales direct to retailers.

CANNED PEAS.

TABLE 240.—*Peas, canned: Production in the United States, calendar years, 1906–1923.*

State.	1906	1907	1908	1909	1910	1911	1912	1913	1914
	Cases.[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]
New York	1,314,832	1,509,997	1,325,000	1,378,000	1,356,000	1,145,000	1,514,000	2,252,000	1,934,000
New Jersey	125,931	149,900	101,000	125,000	(2)	(2)	(2)	(2)	[3] 295,000
Delaware	46,900	141,036	110,000	107,000	[4] 299,000	[4] 192,000	[4] 270,000	[4] 173,000	
Maryland	333,590	468,073	343,000	226,000	200,000	305,000	380,000	318,000	502,000
Ohio	87,000	45,721	199,000	113,000	170,000	128,000	276,000	343,000	748,000
Indiana	364,085	766,972	492,000	447,000	261,000	259,000	323,000	419,000	470,000
Illinois									(5)
Michigan	342,901	578,000	492,000	373,000	422,000	323,000	760,000	830,000	459,000
Wisconsin	1,409,497	1,507,710	2,200,000	1,878,000	1,086,000	1,520,000	2,658,000	3,348,000	3,555,000
Utah									350,000
California									(5)
All other	550,272	367,655	315,000	381,000	553,000	660,000	1,126,000	1,087,000	1,034,000
United States	4,575,008	5,535,064	5,577,000	5,028,000	4,347,000	4,532,000	7,307,000	8,770,000	9,347,000

State.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Cases.[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]
New York	2,218,000	1,084,000	1,394,171	1,870,161	1,040,000	2,381,000	1,382,000	2,137,000	2,541,000
New Jersey [3]	371,000	312,000	567,432	331,869	248,000	549,000	345,000	153,000	199,000
Maryland	574,000	468,000	721,160	683,007	509,000	696,000	533,000	489,000	591,000
Ohio	289,000	131,000	321,624	441,842	306,000	282,000	241,000	225,000	384,000
Indiana	544,000	412,000	522,532	454,229	381,000	271,000	182,000	268,000	367,000
Illinois	381,000	248,000	421,213	978,434	433,000	460,000	331,000	516,000	586,000
Michigan	514,000	280,000	604,470	476,650	425,000	549,000	317,000	455,000	392,000
Wisconsin	3,469,000	2,763,000	3,569,185	4,519,934	4,317,000	5,804,000	4,063,000	7,042,000	6,961,000
Utah	303,000	275,000	754,673	491,963	395,000	595,000	376,000	751,000	918,000
California	210,000	228,000	349,910	252,836	205,000	(5)	84,000	496,000	239,000
All other	399,000	395,000	593,783	397,288	426,000	730,000	353,000	510,000	770,000
United States	9,272,000	6,596,000	9,820,153	10,898,213	8,685,000	12,317,000	8,207,000	13,042,000	13,948,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

[1] Stated in cases of 24 No. 2 cans.
[2] Included in Delaware.
[3] Includes Delaware.
[4] Includes New Jersey.
[5] Included in all other.

POTATOES.

TABLE 241.—*Potatoes: Acreage, production, value, exports, etc., United States, 1869–1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]	Chicago cash price per hundredweight, fair to fancy.[2]				Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
							December.		Following May.			
							Low.	High.	Low.	High.		
	1,000 acres.	*Bushels.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*
1869	1,222	109.5	133,886	42.9	57,481	47.04	.....	.....	.....	.....	596,968	75,336
1870	1,325	86.6	114,775	65.0	74,621	56.32	.....	.....	.....	.....	553,070	458,758
1871	1,221	98.7	120,462	53.9	64,905	53.16	.....	.....	.....	.....	621,537	96,259
1872	1,331	85.3	113,516	53.5	60,692	45.60	.....	.....	.....	.....	515,306	346,840
1873	1,295	81.9	106,089	65.2	69,154	53.40	.....	.....	.....	.....	497,413	549,073
1874	1,310	80.9	105,981	61.5	65,223	49.79	.....	.....	.....	.....	609,642	188,757
1875	1,510	110.5	166,877	34.4	57,358	37.99	.....	.....	.....	.....	704,379	92,148
1876	1,742	71.7	124,827	61.9	77,320	44.39	.....	.....	.....	.....	529,650	3,205,555
1877	1,792	94.9	170,092	43.7	74,272	41.45	.....	.....	.....	.....	744,409	528,584
1878	1,777	69.9	124,127	58.7	72,924	41.04	.....	.....	.....	.....	625,342	2,624,149
1879	1,837	98.9	181,626	43.6	79,154	43.09	.....	.....	.....	.....	696,080	721,868
1880	1,843	91.0	167,660	48.3	81,062	43.98	.....	.....	.....	.....	638,840	2,170,372
1881	2,042	53.5	109,145	91.0	99,291	48.62	.....	.....	.....	.....	408,286	8,789,860
1882	2,172	78.7	170,973	55.7	95,305	43.88	.....	.....	.....	.....	439,443	2,362,362
1883	2,289	90.9	208,164	42.2	87,840	38.38	.....	.....	.....	.....	554,613	425,408
1884	2,221	85.8	190,642	39.6	75,524	34.00	.....	.....	.....	.....	380,868	658,633
1885	2,266	77.2	175,029	44.7	78,153	34.49	.....	.....	55	83	494,948	1,937,416
1886	2,287	73.5	168,051	46.7	78,442	34.30	73	78	108	150	434,864	1,432,490
1887	2,357	56.9	134,103	68.2	91,507	38.82	117	138	108	142	403,880	8,259,538
1888	2,533	79.9	202,365	40.2	81,414	32.14	50	62	40	75	471,955	883,380
1889	*2,601*	77.4	201,200	35.4	71,294	27.41	55	75	50	100	406,618	3,415,578
1890	2,653	56.7	150,494	75.3	113,291	42.70	137	155	158	183	341,189	5,401,912
1891	2,732	93.7	256,122	35.6	91,229	33.39	50	67	50	83	557,022	186,871
1892	2,650	62.1	164,516	65.5	107,835	40.69	100	120	117	163	845,720	4,317,021
1893	2,722	71.7	195,040	58.4	113,886	41.84	85	100	107	147	803,111	3,002,578
1894	2,891	63.6	183,841	52.9	97,330	33.67	72	97	67	117	572,957	1,341,533
1895	3,101	102.3	317,114	26.2	83,151	26.81	30	40	17	38	680,049	175,240
1896	2,975	91.4	271,769	29.0	78,783	26.48	30	43	32	43	926,646	246,178
1897	2,813	67.9	191,025	54.2	103,442	36.77	83	103	100	145	605,187	1,171,378
1898	2,841	77.0	218,772	41.5	90,897	31.99	50	60	55	87	579,833	530,420
1899	*2,939*	88.6	260,257	39.7	103,365	35.17	58	77	45	65	809,472	155,861
1900	2,987	82.9	247,759	42.3	104,764	35.07	67	80	58	100	741,483	371,911
1901	2,996	66.3	198,626	76.3	151,602	50.60	125	137	97	167	528,484	7,656,162
1902	3,078	95.5	293,918	46.9	137,730	44.75	70	80	70	100	843,075	358,505
1903	3,080	85.1	262,053	60.9	159,620	51.82	100	110	158	193	484,042	3,161,581
1904	3,172	111.1	352,268	44.8	157,646	49.70	53	63	33	42	1,163,270	186,199
1905	3,195	87.3	278,885	61.1	170,340	53.31	92	110	80	122	1,000,326	1,948,160
1906	3,244	102.2	331,685	50.6	167,795	51.72	67	72	92	125	1,530,461	176,917
1907	3,375	95.7	322,954	61.3	197,863	58.63	77	97	83	133	1,203,894	403,952
1908	3,503	86.2	302,000	69.7	210,618	60.13	100	128	117	250	765,651	8,383,966
1909	*3,669*	107.5	394,553	54.2	213,679	58.24	33	97	27	57	999,476	353,208
1910	3,720	93.8	349,032	55.7	194,566	52.30	50	80	58	125	2,383,887	218,984
1911	3,619	80.9	292,737	79.9	233,778	64.60	117	167	150	333	1,237,276	13,734,695
1912	3,711	113.4	420,647	50.5	212,550	57.28	67	108	55	117	2,028,261	337,230
1913	3,668	90.4	331,525	68.7	227,903	62.13	83	117	100	150	1,794,073	3,645,993
Average 1909–1913	3,677	97.3	357,699	60.5	216,495	58.88	70	114	78	156	1,688,595	3,658,022
1914	3,711	110.5	409,921	48.7	199,460	53.75	50	110	57	250	3,135,474	270,942
1915	3,734	96.3	359,721	61.7	221,992	59.45	88	158	183	183	4,017,760	209,532
1916	3,565	80.5	286,953	146.1	419,333	117.62	208	317	333	625	2,489,001	3,079,025
1917	4,384	100.8	442,108	122.8	542,774	123.81	155	225	80	250	3,453,307	1,180,480
1918	4,295	95.9	411,860	119.3	491,527	114.44	90	225	125	250	3,688,840	3,534,076
1919	3,542	91.2	322,867	159.5	514,855	145.36	280	360	685	925	3,723,434	6,940,930
1920	3,657	110.3	403,296	114.5	461,778	126.27	120	225	40	500	4,803,159	3,423,189
Average 1914–1920	3,841	98.1	376,675	108.2	407,388	106.06	142	231	208	426	3,615,854	2,662,596
1921	3,941	91.8	361,659	110.1	398,362	101.08	100	245	190	235	2,327,147	2,109,537
1922	4,307	105.3	453,396	58.1	263,355	61.15	75	175	90	700	2,980,701	572,149
1923[3]	3,816	108.1	412,392	82.3	339,322	88.92	.....	.....	.....	.....	.....	.....

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Based on farm price Dec. 1. [2] Burbank to 1910. [3] Preliminary.

TABLE 242.—*Potatoes: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
Maine	129	135	124	38,442	25,245	31,992	32,676	11,360	22,394
New Hampshire	14	14	13	2,249	1,400	2,405	3,024	1,470	2,766
Vermont	25	25	24	3,750	3,000	4,320	3,900	2,790	4,320
Massachusetts	29	29	26	3,335	2,610	4,550	5,069	2,480	6,142
Rhode Island	3	3	2	345	270	330	552	243	429
Connecticut	23	24	23	2,369	3,360	3,565	3,554	3,360	5,241
New York	330	340	323	33,990	37,400	39,729	36,709	22,440	37,743
New Jersey	95	95	80	9,025	16,435	7,000	12,816	11,833	9,500
Pennsylvania	251	254	249	21,586	27,432	26,145	28,709	20,574	27,452
Delaware	10	10	10	500	900	800	550	672	816
Maryland	49	51	49	3,185	5,151	3,920	3,504	3,091	3,920
Virginia	149	155	152	16,092	16,585	14,136	17,701	10,780	14,136
West Virginia	48	49	49	4,080	4,851	5,880	6,650	4,220	6,174
North Carolina	46	50	46	4,048	4,700	3,956	5,789	4,747	4,747
South Carolina	30	33	32	2,550	2,508	3,136	3,825	3,210	5,018
Georgia	23	25	22	1,725	1,700	1,540	2,846	2,380	2,464
Florida	17	26	19	1,564	2,860	1,748	2,972	5,005	3,321
Ohio	120	126	126	6,960	11,214	12,348	10,788	10,093	12,348
Indiana	70	74	75	3,570	5,624	7,875	5,176	4,724	6,772
Illinois	121	107	104	6,413	6,741	9,568	8,978	6,067	8,420
Michigan	340	357	314	27,200	37,842	35,796	25,840	12,866	17,898
Wisconsin	315	328	272	21,420	40,672	26,112	20,349	13,422	13,056
Minnesota	430	486	399	32,250	43,740	38,304	29,025	15,309	21,067
Iowa	96	85	81	4,128	8,925	6,804	5,779	5,980	5,239
Missouri	82	90	93	4,756	5,400	9,300	6,421	4,968	8,184
North Dakota	124	210	158	11,904	18,900	13,114	8,333	5,859	4,590
South Dakota	90	110	88	5,490	8,580	7,744	5,874	3,775	3,872
Nebraska	102	139	111	8,160	11,676	8,880	9,792	5,488	7,104
Kansas	65	65	60	4,160	4,160	5,160	5,616	3,827	5,108
Kentucky	58	59	58	3,770	4,720	4,930	6,220	4,720	5,916
Tennessee	35	32	32	1,820	2,560	2,880	3,003	2,816	3,226
Alabama	32	48	44	2,400	3,840	3,520	4,080	5,760	5,280
Mississippi	16	16	15	1,088	1,360	1,110	2,176	2,176	1,709
Louisiana	27	27	26	1,809	1,755	1,638	3,256	2,632	2,457
Texas	37	39	35	2,072	2,418	1,925	3,937	3,869	3,080
Oklahoma	36	40	42	2,088	2,720	2,772	3,863	3,346	3,548
Arkansas	33	35	33	1,815	2,380	1,947	3,267	3,094	2,648
Montana	41	45	36	4,715	5,670	3,960	3,772	2,268	2,891
Wyoming	19	22	18	2,052	2,420	1,710	2,421	1,210	1,590
Colorado	113	142	110	14,916	18,460	13,530	10,889	6,830	8,794
New Mexico	4	4	3	240	200	150	432	290	240
Arizona	4	6	4	460	510	240	644	459	336
Utah	15	21	16	2,415	4,137	2,088	2,053	1,655	1,882
Nevada	4	5	5	592	870	870	710	522	914
Idaho	64	81	67	11,840	14,985	11,725	9,117	4,645	5,862
Washington	60	65	52	8,100	9,425	8,060	8,019	4,241	5,642
Oregon	43	49	44	3,870	5,145	4,180	4,218	2,675	2,926
California	74	76	52	10,360	9,880	7,800	13,168	7,114	10,140
United States	3,941	4,307	3,816	361,659	453,306	412,392	398,362	263,355	339,322

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 243.—*Potatoes: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	225	225	220	180	196	220	209	260	179	204	125	209	230	177	196	298	187	258
New Hampshire	100	130	150	125	140	122	133	159	95	120	107	140	102	127	121	160	100	185
Vermont	73	155	130	105	140	127	131	168	108	112	100	130	108	130	121	150	120	180
Massachusetts	95	125	125	92	130	105	116	155	120	91	115	123	99	125	118	118	90	175
Rhode Island	150	125	136	110	113	130	123	165	110	74	135	130	100	110	118	115	90	165
Connecticut	80	120	125	85	107	92	106	140	95	95	110	95	75	115	104	103	140	155
New York	82	120	102	74	106	74	95	145	62	70	95	98	109	125	101	103	110	123
New Jersey	72	90	105	73	108	95	94	108	130	122	114	92	96	156	117	95	173	95
Pennsylvania	72	78	88	56	109	88	84	105	72	70	92	80	100	115	91	86	108	105
Delaware	82	96	103	60	100	87	89	80	95	90	95	87	83	106	91	50	96	80
Maryland	77	80	95	45	112	87	84	78	97	95	100	80	94	102	92	65	101	80
Virginia	88	92	98	45	87	94	83	65	125	130	99	94	114	120	107	108	107	93
West Virginia	84	98	92	45	112	83	86	54	117	88	115	87	90	120	96	85	99	120
North Carolina	79	74	89	48	85	80	75	52	90	95	90	95	89	91	85	88	94	86
South Carolina	81	85	90	70	90	80	83	70	80	75	96	102	85	100	87	85	76	98
Georgia	78	81	82	72	78	81	79	60	65	60	84	70	70	74	69	75	68	70
Florida	83	95	90	90	93	76	89	80	80	74	91	100	76	105	87	92	110	92
Ohio	77	93	82	65	112	64	83	95	82	45	100	69	61	100	79	58	89	98
Indiana	57	95	84	58	114	53	81	80	95	44	92	80	44	96	76	51	76	105
Illinois	71	91	75	50	101	46	73	60	110	58	90	72	52	65	72	53	63	92
Michigan	72	105	105	94	105	96	101	121	59	48	95	84	90	105	86	80	106	114
Wisconsin	80	102	95	116	120	109	108	124	87	47	114	110	94	108	98	68	124	96
Minnesota	76	115	61	115	135	110	107	114	106	60	112	105	87	99	98	75	90	96
Iowa	80	89	72	74	109	48	78	86	105	42	95	72	46	110	79	43	105	84
Missouri	80	85	86	27	84	38	64	45	98	60	87	61	75	82	73	58	60	100
North Dakota	85	110	41	120	128	85	97	109	90	93	43	99	63	79	82	96	90	83
South Dakota	90	80	44	72	105	78	76	90	115	66	90	91	50	106	87	61	78	88
Nebraska	78	78	60	52	80	48	64	80	105	73	85	86	55	99	83	80	84	80
Kansas	80	79	57	22	82	40	56	62	83	71	57	58	76	55	70	64	64	86
Kentucky	62	92	92	39	101	49	75	45	126	84	96	75	70	99	85	65	80	85
Tennessee	80	75	80	41	88	64	70	43	88	82	94	70	67	83	75	52	80	90
Alabama	85	80	80	78	81	84	81	79	80	90	72	80	80	67	78	75	80	80
Mississippi	91	87	85	83	89	80	85	80	90	65	78	80	85	87	81	68	85	74
Louisiana	82	75	55	69	73	70	68	70	51	65	64	79	64	65	65	67	65	63
Texas	71	50	51	57	63	52	55	61	65	50	60	55	73	52	59	56	62	55
Oklahoma	78	70	60	18	60	60	54	70	85	53	69	34	75	74	66	58	68	66
Arkansas	82	70	84	55	70	72	70	60	90	65	80	50	73	78	71	55	68	59
Montana	138	180	120	150	165	140	151	140	155	125	95	135	60	110	117	115	126	110
Wyoming	158	160	100	42	140	140	116	108	150	130	155	150	80	125	128	108	110	95
Colorado	125	160	100	85	95	115	101	120	135	138	160	160	115	130	137	132	130	123
New Mexico	100	85	47	80	100	68	76	100	100	102	116	100	58	75	93	60	50	50
Arizona	110	90	92	95	125	75	95	110	95	115	105	85	70	90	96	115	85	60
Utah	160	180	142	140	185	180	165	140	125	180	189	180	136	189	163	161	197	168
Nevada	120	180	150	160	178	160	166	130	172	190	207	171	135	135	163	148	174	174
Idaho	130	200	142	180	185	170	175	155	125	150	156	185	155	180	158	185	185	175
Washington	120	170	131	160	167	123	150	128	135	135	125	132	125	165	138	135	145	155
Oregon	99	160	105	130	155	135	137	97	115	150	108	110	94	130	115	90	105	95
California	107	130	130	135	130	119	129	138	130	141	145	143	130	140	138	140	130	150
United States	86.2	107.5	93.8	80.9	113.4	90.4	97.2	110.5	96.3	80.5	100.8	95.9	91.2	110.3	97.9	91.8	105.3	108.1

Division of Crop and Livestock Estimates.

TABLE 244.—*Potatoes: Condition of crop, 1st of month, and yield per acre, United States, 1866–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1866	104.0	105.0	------	98.8	100.2	1896	99.0	94.8	83.2	81.7	91.4
1867	97.3	100.0	90.9	87.9	82.0	1897	87.8	77.9	66.7	61.6	67.9
1868	103.5	104.0	83.6	90.6	93.8	1898	95.5	83.9	77.7	72.5	77.0
1869	106.8	110.5	106.0	105.2	109.5	1899	93.8	93.0	86.3	81.7	88.6
1870	96.9	91.0	85.4	83.0	86.6	1900	91.3	88.2	80.0	74.4	82.9
1871	98.4	99.6	95.6	97.6	98.7	1901	87.4	62.3	52.2	54.0	60.3
1872	102.1	102.2	96.1	92.6	85.3	1902	92.9	94.8	89.1	82.5	95.5
1873	90.2	93.4	95.0	89.0	81.9	1903	88.1	87.2	84.3	74.6	85.1
1874	97.5	92.8	83.0	86.0	80.9	1904	93.9	94.1	91.6	89.5	111.1
1875	101.2	105.9	110.0	106.7	110.5	1905	91.2	87.2	80.9	74.3	87.3
1876	98.3	94.0	79.6	77.0	71.7	1906	91.5	89.0	85.3	82.2	102.2
1877	104.2	105.0	99.0	------	94.9	1907	90.2	88.5	80.2	77.0	95.7
1878	100.7	94.0	85.3	------	69.9	1908	89.6	82.9	73.7	68.7	86.2
1879	88.0	97.0	95.0	90.0	98.9						
1880	99.1	98.0	90.0	88.0	91.0	1909	93.0	85.8	80.9	78.8	107.5
						1910	86.3	75.8	70.5	71.8	93.8
1881	100.3	92.0	70.0	67.0	53.5	1911	76.0	62.3	59.8	62.3	80.9
1882	102.0	101.0	92.0	90.7	78.7	1912	88.9	87.8	87.2	85.1	113.4
1883	101.0	101.0	95.0	93.0	90.9	1913	86.2	78.0	69.9	67.7	90.4
1884	96.2	94.0	91.0	88.0	85.8						
1885	97.0	95.0	93.0	82.0	77.2	Av. 1909–1913	86.1	77.9	73.7	73.1	97.2
1886	96.6	88.3	81.4	81.0	73.5	1914	83.6	79.0	75.8	78.3	110.5
1887	93.2	80.8	67.3	61.5	56.9	1915	91.1	92.0	82.7	74.2	96.3
1888	95.7	93.2	91.6	86.8	79.9	1916	87.8	80.8	67.4	62.6	80.5
1889	95.1	94.3	81.7	77.9	77.4	1917	90.1	87.9	82.7	79.0	100.8
1890	91.7	77.4	65.7	61.7	56.7	1918	87.6	79.9	74.5	73.7	95.9
1891	95.3	96.5	94.8	91.3	93.7	1919	87.6	75.1	69.5	67.9	91.2
1892	90.0	86.8	74.8	67.7	62.1	1920	89.3	87.0	84.3	82.7	110.3
1893	94.8	86.0	71.8	71.2	71.7						
1894	92.3	74.0	62.4	64.3	63.6	Av. 1914–1920	88.2	83.1	76.7	74.1	97.9
1895	91.5	89.7	90.8	87.4	102.3						
						1921	83.4	65.8	63.7	66.5	91.8
						1922	87.3	84.3	79.9	77.3	105.3
						1923	86.4	80.5	77.7	78.2	108.1

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 245.—*Potatoes: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1922.*

Calendar Year.	Deficient moisture.	Excessive moisture.	Floods	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct*	*P. ct.*
1909	11.3	2.8	0.3	1.8	0.2	0.2	(2)	16.7	1.7	1.7	0.1	0.2	21.3
1910	15.4	1.7	.2	1.1	.1	.3	(2)	19.2	3.9	5.0	.1	.4	29.8
1911	25.8	2.0	(2)	1.9	.1	3.2	(2)	33.5	2.7	2.6	.1	.6	42.4
1912	5.3	3.3	.4	.6	.1	.2	0.1	10.5	5.8	3.9	.2	.3	21.7
1913	20.8	1.6	.2	2.0	.1	.7	(2)	26.0	1.7	3.9	.1	.5	34.5
1914	10.2	2.1	.1	.8	.1	.4	(2)	14.0	1.7	3.3	(2)	.3	21.2
1915	2.2	8.7	.5	2.2	.1	.1	.1	14.0	13.0	2.4	(2)	.1	30.4
1916	19.7	6.5	.4	1.9	.2	1.4	.1	31.5	5.6	4.5	(2)	.2	43.6
1917	8.8	3.5	.2	3.0	.2	.3	(2)	16.3	4.1	2.4	(2)	.1	23.8
1918	14.7	1.0	.2	1.5	.1	.6	(2)	18.4	5.3	3.3	(2)	.2	28.3
1919	16.3	5.0	.4	.7	.1	.7	.4	23.6	8.8	4.7	(2)	.3	38.1
1920	6.7	2.2	.3	.6	.2	.2	------	10.2	8.1	2.8	.1	.2	21.8
1921	21.7	1.0	.1	1.2	.2	1.8	------	26.1	5.7	3.5	.1	.3	36.2
1922	10.6	2.8	.4	.3	.3	.2	------	14.7	5.7	2.6	(2)	.2	23.4

Division of Crop and Livestock Estimates.

[1] Includes all other causes.

[2] Less than 0.05 per cent.

TABLE 246.—*Potatoes: Area and yield per acre in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Area.					Yield per acre.[1]				
	Average, 1909–1913.	1920	1921	1922	1923, preliminary.	Average, 1909–1913.	1920	1921	1922	1923, preliminary.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
NORTH AMERICA.										
Canada	483	785	702	684	561	161.2	170.1	152.9	135.8	203.2
United States	3,677	3,657	3,941	4,307	3,816	97.3	110.3	91.8	105.3	108.1
Total comparable with 1923	4,160	4,442	4,643	4,991	4,377					
EUROPE.										
United Kingdom:										
England and Wales	454	545	558	561	467	230.2	215.8	197.9	267.0	220.3
Scotland	144	162	154	157	137	240.8	285.1	252.1	283.2	223.5
Ireland	588	584	568	570		203.9	127.0	168.0	223.8	
Norway			130	126	126			200.0	259.5	227.1
Sweden	[2] 377	364	363	400	392	152.7	164.3	177.8	187.0	156.3
Denmark	[3 4] 151	228	208	204	204	205.0	198.8	241.2	241.4	
Netherlands	411	427	441	477	397	253.2	284.6	243.4	340.3	206.4
Belgium	388	366	419	415	374	277.0	226.5	170.7	324.6	237.6
Luxemburg	36	33	35	37	35	178.9	160.1	81.6	189.4	176.4
France	[4] 3,838	3,560	3,595	3,619	3,560	127.5	120.1	84.9	128.4	98.4
Spain	[4] 641	841	779	783	757	176.3	128.2	131.2	138.7	126.2
Portugal		63	45	68			96.7	134.6	95.8	
Italy	710	744	763	861	890	85.6	70.2	76.5	62.4	70.2
Switzerland	[5] 115	124	113	112	111	214.5	227.8	224.5	221.6	209.8
Germany	[4] 8,251	5,986	6,541	6,725	6,735	203.8	171.1	146.9	222.2	177.7
Austria	[4] 3,094	291	327	403		147.5	84.9	93.6	127.5	
Czechoslovakia		1,494	1,574	1,606	1,574		123.0	101.1	207.5	146.8
Hungary	[4] 1,707	626	665	635	637	118.5	121.4	69.0	76.4	99.0
Yugoslavia	[5 6] 28	504	516	532		61.5	81.5	50.7	58.5	
Bulgaria	[4] 8	20	20	20	24		48.6	52.0	68.0	50.8
Rumania	[7] 69	241	493	355	408	128.2	92.8	103.4	106.2	
Poland	[8] (3,597)	4,061	4,796	5,409	5,632	132.2	163.7	128.7	229.3	160.4
Lithuania	[8] (274)	320	326	326	353	103.5	147.3	156.2	208.3	156.3
Latvia	[8] (188)	122	146	171		124.8	112.9	169.6	145.1	
Esthonia	[8] (174)	157	[9] 160	187	187	149.5	164.4		141.0	126.0
Finland		176	168	185	168		116.5	136.3	86.5	94.1
Russia, including Ukraine and Northern Caucasia	[8] (6,930)			6,096		104.1			114.0	
Total comparable with 1909–1913	31,953			30,691						
Total comparable with 1923			22,301	23,230	23,168					
AFRICA.										
Algeria	44	43	46	42	46	42.0	22.9	14.2	51.1	18.0
Tunis		3	2	3	3					
ASIA.										
Russia (Asiatic)	445			229		79.3			95.4	
Japanese Empire:										
Japan	169	297	256			146.4	133.8	154.3		
Chosen	[10] 65	186	187			107.1	99.3	98.2		

SOUTHERN HEMISPHERE.

Chile	69	83	83	83		123.3	144.4	139.6	131.7	
Uruguay		9	9							
Argentina	217	390	336			140.6				
Union of South Africa	[5] 62	45				49.5	80.0			
Southern Rhodesia	[11]	2	3	3						
Australia	144	140	149			100.5	99.5	97.2		
New Zealand	28	22	19	20		205.8	214.9	220.3	212.5	
World total comparable with 1909–1913	37,356									
World total comparable with 1923			26,992	28,266	27,594					

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

[1] Yield per acre not calculated when acreage is less than 12,000 acres.
[2] Four-year average.
[3] One year only.
[4] Old boundaries.
[5] Three-year average.
[6] Former Kingdom of Serbia
[7] Includes Bessarabia.
[8] Preliminary estimate of former Russian territory within 1923 boundaries.
[9] Estimate of U. S. Department of Agriculture.
[10] Two-year average.
[11] Acreage less than 500 acres

TABLE 247.—*Potatoes: Production in undermentioned countries.*

NORTHERN HEMISPHERE.

Countries.	Average, 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
NORTH AMERICA.								
Canada	77,843	79,892	104,347	125,575	133,498	107,547	92,905	113,991
United States	357,699	442,108	411,860	322,867	403,296	361,650	453,396	412,392
Total comparable with 1909–1913	435,542	522,000	516,207	448,442	536,794	469,006	546,304	526,383
EUROPE.								
United Kingdom:								
England and Wales	99,893	124,731	157,136	102,052	117,637	110,432	110,781	102,891
Scotland	34,674	41,440	42,971	31,061	46,181	38,827	44,464	30,613
Ireland	119,874	155,036	144,231	102,555	74,111	95,424	127,570	
Norway	[1] 25,179	39,700	28,952	37,912	31,076	25,995	32,099	28,610
Sweden	57,581	74,252	67,344	73,537	59,801	61,543	74,788	61,251
Denmark	[2] 30,953	[2] 31,882	[2] 46,605	[2] 53,057	45,316	50,173	49,249	
Netherlands	104,061	123,978	130,283	127,468	121,514	107,346	162,328	81,948
Belgium	107,479			103,980	82,912	71,534	144,453	88,853
Luxemburg	6,439	5,500	5,104	6,686	5,284	2,856	7,007	6,173
France	[3] 489,377	308,962	251,600	312,708	427,610	305,324	404,661	350,311
Spain	[3] 112,997	113,477	95,562	101,019	107,833	102,224	108,598	95,497
Portugal		6,080	5,600	5,654	6,218	6,058	6,512	
Italy	66,866	48,112	51,804	50,389	52,260	58,359	53,699	62,464
Switzerland	[4] 24,664	38,573	34,302	30,313	28,248	25,371	24,920	23,292
Germany	[3] 1,681,959	1,264,377	1,070,772	760,543	1,024,301	960,889	1,404,181	1,707,119
Austria	[2] 458,492	32,890	21,495	20,022	24,705	39,607	51,378	
Czechoslovakia		96,899	85,334	84,091	183,810	159,068	333,236	231,063
Hungary	[2] 202,207				75,967	45,898	48,490	63,043
Yugoslavia	[5] [6] 1,721				41,079	28,184	31,100	
Bulgaria	[2] 454	651	535	813	973	1,040	1,380	1,220
Rumania	[7] 8,849			10,441	22,363	50,987	37,692	
Poland	[8] (449,054)			380,315	664,920	617,272	1,240,418	903,143
Lithuania	[8] (28,347)			32,738	47,127	50,926	67,998	55,171
Latvia	[8] (23,470)				13,771	24,758	24,906	
Esthonia	[8] (26,008)			18,349	25,813	[9] 25,000	26,373	23,567
Finland	18,443	19,118	19,548	19,953	20,497	22,891	16,090	15,816
Russia, including Ukraine and Northern Caucasia	[8] (721,219)						695,122	
Total comparable with 1909–1913	4,802,170						5,512,184	
Total comparable with 1923					3,123,764	2,795,795	4,495,258	3,122,345
AFRICA.								
Algeria	1,847	2,756	1,273	920	985	653	2,149	827
Tunis		92	220	138	147	147	165	147
ASIA.								
Russia (Asiatic)	35,296						21,856	
Japanese Empire:								
Japan	24,738	47,616	41,634	67,236	39,736	37,506		
Chosen	[3] 6,960	13,484	15,584	15,138	18,471	18,371		

SOUTHERN HEMISPHERE.

Chile	8,510	9,640	8,905	10,377	11,989	11,587	10,932	
Uruguay		148	148	133	150	197		
Argentina	[4] 30,515							
Union of South Africa	[1] 3,671	3,670	3,429	3,127	3,599	4,331		
Southern Rhodesia		82	87	118	119	92	142	
Australia	14,469	12,969	9,722	10,984	13,927	14,489		
New Zealand	5,763	3,756	3,934	5,462	4,728	4,185	4,250	
World total comparable with 1909–1913	5,458,881							
World total comparable with 1923					3,661,690	3,265,601	5,643,873	3,949,702

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

[1] One year.
[2] Old boundaries.
[3] Two-year average.
[4] Four-year average.
[5] Three-year average.
[6] Former Kingdom of Serbia.
[7] Includes Bessarabia.
[8] Preliminary estimate of former Russian territory within 1923 boundaries.
[9] Estimate of U. S. Department of Agriculture.

TABLE 248.—*Potatoes: Stocks on hand January 1, 1919–1923.*

State and year.	Total production.	Merchantable stocks Jan. 1.		Per cent of stock held Jan. 1 by—		Farm price per bushel.	
		Per cent of crop.	Quantity.	Growers.	Dealers	Dec. 1.	Mar. 1.
19 surplus late potato States: [1]	*1,000 bush.*	*Per cent.*	*1,000 bush.*	*Per cent.*	*Per cent.*	*Cents.*	*Cents.*
1919–20	225,248	26.9	58,530	79.4	20.6	151.0	234.3
1920–21	289,222	35.3	95,061	85.2	14.8	103.1	65.6
1921–22	283,052	31.4	82,657	80.0	20.0	90.9	105.2
1922–23	325,479	36.3	118,151	85.8	14.2	46.2	50.7
1923–24	286,659	33.8	96,759	86.7	13.3	71.3	----------
16 deficient late potato States: [2]							
1919–20	73,291	9.4	6,875	74.4	25.6	181.1	254.7
1920–21	107,644	12.0	12,930	81.7	18.3	130.5	105.2
1921–22	74,928	9.8	7,366	76.9	23.1	139.5	141.3
1922–23	98,406	11.5	11,312	77.2	22.8	81.6	87.7
1923–24	99,171	11.3	11,178	85.0	15.0	101.3	----------
Total, 35 States:							
1919–20	298,539	21.9	65,405	78.8	21.2	158.8	239.5
1920–21	396,866	24.7	107,991	84.6	15.4	110.2	75.9
1921–22	357,980	26.5	90,023	79.6	20.4	110.1	114.5
1922–23	423,885	30.5	129,463	84.8	15.2	55.4	60.3
1923–24	385,830	28.0	107,977	86.4	13.6	79.1	----------
Leading surplus States:							
Maine—							
1919–20	25,530	44.5	11,373	78	22	140	200
1920–21	21,771	44.6	9,699	88	12	125	55
1921–22	33,442	43.7	16,814	81	19	85	96
1922–23	25,245	47.0	11,865	84	16	45	60
1923–24	31,992	50.0	15,996	84	16	70	----------
New York—							
1919–20	33,790	30.2	10,218	90	10	145	220
1920–21	40,625	40.3	16,380	91	9	118	63
1921–22	33,990	29.0	9,850	92	8	108	116
1922–23	37,400	32.8	12,252	92	8	60	72
1923–24	39,729	38.0	15,096	95	5	95	----------
Pennsylvania—							
1919–20	23,400	16.5	3,861	80	20	154	223
1920–21	28,290	21.2	6,846	91	9	124	78
1921–22	21,586	19.2	4,155	81	19	133	130
1922–23	27,432	23.1	6,340	80	20	75	77
1923–24	26,145	28.0	7,321	86	14	105	----------
Michigan—							
1919–20	27,000	21.0	5,670	77	23	135	228
1920–21	36,225	33.4	13,910	83	17	92	52
1921–22	27,200	36.0	8,160	81	19	95	96
1922–23	37,842	37.2	14,066	88	12	34	40
1923–24	35,796	39.0	13,961	87	13	50	----------
Wisconsin—							
1919–20	28,388	21.6	6,132	78	22	140	227
1920–21	33,264	37.2	12,374	88	12	86	62
1921–22	21,420	39.6	8,482	74	26	95	109
1922–23	40,672	39.6	16,106	88	12	33	32
1923–24	26,112	33.0	8,616	88	12	50	----------
Minnesota—							
1919–20	28,884	21.5	6,196	76	24	153	237
1920–21	31,581	32.5	10,264	80	20	80	54
1921–22	32,250	30.1	9,707	73	27	90	94
1922–23	43,740	41.1	17,912	74	26	35	33
1923–24	38,304	33.0	12,640	76	24	55	----------
North Dakota—							
1919–20	5,220	10.5	549	86	14	160	243
1920–21	6,557	16.5	1,082	62	38	98	91
1921–22	11,904	13.7	1,625	63	37	70	93
1922–23	18,900	30.0	5,670	83	17	31	38
1923–24	13,114	23.0	3,016	78	22	35	----------
South Dakota—							
1919–20	4,050	16.2	656	80	20	190	254
1920–21	7,950	17.5	1,395	82	18	97	92
1921–22	5,490	10.0	549	82	18	107	108
1922–23	8,580	15.3	1,313	91	9	44	52
1923–24	7,744	13.0	1,007	85	5	50	----------
Nebraska—							
1919–20	5,720	25.0	1,430	78	22	190	275
1920–21	8,415	20.0	1,683	85	15	120	106
1921–22	8,160	26.4	2,154	73	27	120	137
1922–23	11,676	25.0	2,919	88	12	47	54
1923–24	8,880	16.0	1,421	94	6	80	----------
Colorado—							
1919–20	8,885	28.5	2,524	89	11	170	245
1920–21	9,490	36.8	3,488	92	8	80	53
1921–22	14,916	44.2	6,600	90	10	73	65
1922–23	18,400	43.5	8,030	95	5	37	25
1923–24	13,530	36.0	4,871	92	8	65	----------

[1] Maine, Vermont, New York, Pennsylvania, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Montana, Wyoming, Colorado, Utah, Nevada, Idaho, Washington, Oregon, and California.

[2] New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, West Virginia, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, and Kentucky.

TABLE 248.—*Potatoes: Stocks on hand January 1, 1919–1923*—Continued.

State and year.	Total production.	Merchantable stocks Jan. 1.		Per cent of stock held Jan. 1 by—		Farm price per bushel.	
		Per cent of crop.	Quantity.	Growers.	Dealers.	Dec. 1.	Mar. 1.
Leading surplus States—Con.							
Idaho—	*1,000 bush.*	*Per cent.*	*1,000 bush.*	*Per cent.*	*Per cent.*	*Cents.*	*Cents.*
1919–20	6,665	28.7	1,913	63	37	151	253
1920–21	8,100	49.0	3,969	90	10	68	48
1921–22	11,840	40.2	4,757	82	18	77	89
1922–23	14,985	47.0	7,043	98	2	31	55
1923–24	11,725	38.0	4,455	89	11	50	.....

Division of Crop and Livestock Estimates.

TABLE 249.—*Potatoes: Carlot shipments, by States of origin, 1917–1922.*

State.	Crop movement season.									
						Quarters, 1922–23.				
	1917–18	1918–19	1919–20	1920–21	1921–22	Apr.–June.	July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June.[1]	Total.
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
Maine	14,794	19,028	23,444	17,817	38,037	.....	1,976	8,111	9,012	[1] 5,286	24,385
New York:											
Long Island	4,939	4,350	3,701	5,501	4,959	.....	2,586	3,538	1,058	34	7,216
Other	5,171	5,739	9,116	11,001	14,029	.....	92	4,350	6,058	[1] 1,579	12,079
New Jersey	11,709	5,889	10,409	17,147	10,476	7	15,377	2,653	217	81	18,335
Pennsylvania	3,727	2,119	3,742	6,489	3,504	.....	1,017	3,052	1,278	[1] 405	5,752
Maryland:											
Eastern Shore, first	2,286	703	1,434	2,259	2,123	206	2,847	.....	.....	.....	3,053
Eastern Shore, second	625	233	667	799	529	.....	.....	223	409	79	711
Other	22	10	58	47	27	.....	2	11	.....	5	19
Virginia:											
Eastern Shore, first	14,123	8,385	9,235	11,948	13,081	5,450	8,282	.....	.....	.....	13,732
Eastern Shore, second	214	203	398	973	359	.....	.....	185	103	34	322
Norfolk, first	5,003	2,485	2,285	2,995	5,192	2,663	1,430	.....	.....	.....	4,093
Norfolk, second	328	591	174	446	525	.....	.....	114	56	41	211
Other	772	265	102	268	407	190	155	36	2	2	385
North Carolina	4,713	5,605	3,306	3,513	3,597	3,680	434	20	7	3	4,144
South Carolina	2,440	2,812	1,217	3,070	2,509	4,337	3	1	2	.....	4,345
Florida	4,294	4,839	2,275	3,351	2,344	[2] 5,039	3	1	3	.....	5,046
Michigan	9,431	11,062	12,237	17,119	15,222	.....	1,292	6,455	5,051	[1] 7,031	19,829
Wisconsin	13,852	20,655	21,975	18,661	11,045	.....	1,582	7,338	7,393	[1] 5,450	21,763
Minnesota	16,477	23,515	22,058	23,214	29,568	.....	6,107	10,187	7,471	[1] 5,143	28,908
Iowa	462	943	251	922	91	.....	235	576	25	7	843
North Dakota	353	2,530	2,229	1,846	10,522	.....	1,051	3,950	1,803	[1] 1,538	8,351
South Dakota	963	1,291	689	1,926	3,345	.....	757	1,675	69	201	2,702
Nebraska	2,026	3,823	1,661	3,071	5,331	.....	1,365	1,740	1,679	780	5,564
Kansas	844	824	1,132	1,982	2,380	61	2,328	40	4	.....	2,433
Kentucky	805	758	866	1,132	641	30	375	19	54	5	483
Alabama	641	579	90	308	696	1,912	6	3	4	.....	1,925
Louisiana	1,076	4,032	559	887	1,162	1,013	43	14	13	.....	1,083
Texas	1,693	2,312	808	738	1,107	1,410	10	3	9	.....	1,432
Oklahoma	665	350	677	592	281	945	52	2	1	.....	1,000
Arkansas	371	280	186	236	138	317	11	6	7	.....	341
Montana	355	771	352	949	1,834	.....	65	611	182	554	1,412
Wyoming	230	407	265	545	958	.....	104	407	278	[1] 158	1,037
Colorado	12,462	13,647	8,810	11,345	17,844	.....	3,227	4,282	5,607	[1] 2,354	15,470
Utah	816	496	426	563	1,074	3	1,325	498	49	161	2,036
Nevada	1,417	726	689	415	465	.....	4	367	259	114	744
Idaho	7,120	7,727	6,853	8,143	14,670	.....	2,760	4,132	4,376	[1] 4,945	16,213
Washington	2,630	2,924	3,098	3,765	6,194	.....	609	1,279	1,449	1,728	5,065
Oregon	1,903	1,628	786	1,756	1,386	.....	451	386	302	703	1,842
California:											
Northern district	[3] 7,864	8,151	7,118	8,403	6,500	530	1,466	1,978	1,659	227	5,860
Southern district	(3)	2,200	1,369	1,687	2,741	431	1,374	40	44	16	1,905
All other	1,980	1,667	1,123	1,336	1,593	729	520	386	277	146	2,058
Total	161,596	176,552	167,870	199,165	238,546	[2] 28,953	61,416	68,678	56,270	[4] 38,810	254,127

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis. The crop movement season normally begins in April and extends through June of the following year, with irregular shipments continuing into July and August.

[1] Old crop only. Includes carlot shipments in July as follows: Maine 43, New York, other 3, Pennsylvania 3, Michigan 148 (also 9 in August), Wisconsin 55, Minnesota 21, North Dakota 2, Wyoming 2, Colorado 2 and Idaho 10.

[2] Includes 1 car in February and 221 cars in March.

[3] Southern District included in Northern District.

[4] Includes 280 cars in July and 9 cars in August.

TABLE 250.—*Potatoes: Carlot shipments, by States of origin, 1917–1923.*

State, and crop movement season beginning Apr. 1.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May.	June.	July.	Total.
Maine:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917–18					71	1,699	1,986	1,331	1,390	1,808	1,673	2,020	1,330	825	445	16	14,794
1918–19					91	2,076	2,466	1,596	1,700	1,979	1,417	2,471	2,281	1,618	1,271	60	19,026
1919–20					947	2,211	3,338	2,543	2,465	2,837	1,474	2,796	3,493	1,208	132		23,444
1920–21					91	1,126	2,170	2,046	1,478	2,478	2,036	2,495	1,778	1,643	458	18	17,817
1921–22					579	4,452	4,681	2,882	2,768	3,569	3,386	4,473	4,814	4,459	1,918	56	38,037
1922–23					198	1,778	3,077	2,675	2,389	2,717	2,782	3,513	2,589	1,523	1,131	43	24,385
1923–24					281	3,943	5,737	3,742	2,995								
New York:																	
1917–18				36	733	1,052	2,228	1,043	478	913	1,145	1,104	891	413	74		10,110
1918–19				80	608	1,169	2,967	1,265	875	902	687	1,012	927	374	116	7	10,089
1919–20				117	782	516	2,920	2,071	982	1,298	1,153	1,929	817	214	15	3	12,817
1920–21				53	336	999	2,363	2,636	1,008	1,316	1,787	2,317	2,063	1,429	192	3	16,502
1921–22				203	1,360	2,121	4,914	1,946	1,356	2,138	1,517	1,818	1,129	428	57	1	18,988
1922–23				93	815	1,770	3,396	2,602	1,830	2,207	2,058	2,851	1,159	354	97	3	19,295
1923–24			6	52	1,867	1,634	2,270	1,905	979								
New Jersey:																	
1917–18				112	4,669	3,919	1,979	563	76	57	84	105	111	27	7		11,709
1918–19			2	303	3,075	1,641	368	223	110	27	32	48	41	13	6		5,889
1919–20				618	4,971	3,292	970	410	56	32	2	50	3	5			10,409
1920–21				1,567	5,242	6,282	2,747	969	118	37	24	109	37	15			17,147
1921–22				2,107	5,854	1,634	377	284	49	23	55	75	16	2			10,476
1922–23			7	2,234	8,387	4,756	1,971	609	73	34	9	174	72	9			18,335
1923–24				86	3,869	1,704	357	183	19								
Pennsylvania:																	
1917–18					16	371	1,051	578	257	347	299	286	377	125	20		3,727
1918–19					14	264	489	309	161	175	188	192	240	116	1		2,119
1919–20					80	549	743	964	320	351	236	274	151	71	3		3,742
1920–21				1	7	331	1,316	1,879	418	550	397	717	564	291	15	3	6,489
1921–22					69	426	1,182	573	241	412	286	211	121	36	1	1	3,564
1922–23					124	893	1,432	1,176	444	492	290	496	316	74	12	3	5,752
1923–24					30	196	569	835	269								
Virginia:																	
1917–18		4	4,962	11,487	3,026	288	110	207	76	22	63	65	101	16	13		20,440
1918–19		1	2,470	7,570	936	124	16	410	135	83	43	74	54	13			11,929
1919–20			3,955	7,311	330	22	13	419	82	19	12	11	20				12,194
1920–21			4,813	8,220	1,801	236	123	784	171	125	55	73	200	29			16,630
1921–22		400	9,728	7,993	468	59	61	397	86	43	56	131	98	44			19,564
1922–23		16	8,287	9,142	651	74	49	246	40	60	43	58	75	2			18,743
1923–24			5,198	9,443	572	64	26	284	17								
North Carolina:																	
1917–18		221	3,925	554		1	6	2				3		1			4,713
1918–19		32	4,077	1,421	12	3	4		15	3	3	16	11	8			5,605
1919–20		3	2,415	812	59	6	1	2	7	1							3,306
1920–21		30	3,288	152	2	2	13	18		1		3	4				3,913
1921–22		404	2,515	515	115	21	1	6	2	2	7	1	7	1			3,597
1922–23		201	3,479	392	41	1	14	6		2	2	3	3				4,144
1923–24		14	3,139	215	66	19	4										

TABLE 250.—*Potatoes: Carlot shipments, by States of origin, 1917–1923*—Continued.

State, and crop movement season beginning Apr. 1.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Total.
South Carolina:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917–18		1,770	670														2,440
1918–19		800	1,927	85													2,812
1919–20		341	838	38													1,217
1920–21	2	852	2,209	6						1							3,070
1921–22		2,035	451	14						3		6					2,509
1922–23		3,203	1,044	4	1				1	2							4,345
1923–24		1,848	2,347	11	1												
Florida:																	
1917–18	[1] 1,472	2,618	190	4						3	5	2					4,294
1918–19	[2] 1,264	2,950	884	36		2				3							4,639
1919–20	[3] 734	1,499	42														2,275
1920–21	[1] 48	2,335	924	42				2									3,351
1921–22	[3] 1,775	539	28							2							2,344
1922–23	[4] 2,712	2,214	113		3		1			3							5,046
1923–24	[5] 1,089	2,291	108	8				1									
Michigan:																	
1917–18					16	388	1,572	1,296	598	458	751	938	1,326	1,553	531	4	9,431
1918–19					20	328	1,847	2,072	743	790	592	1,154	1,725	1,291	770	30	11,062
1919–20					50	601	2,687	2,329	1,043	1,099	1,011	1,714	1,134	543	26		12,237
1920–21				2	39	577	2,210	3,116	1,253	1,630	990	1,657	2,174	2,632	813	26	17,119
1921–22					3	789	3,210	1,886	880	1,516	1,240	2,041	1,522	1,414	718	3	15,222
1922–23					76	1,216	2,600	2,475	1,380	1,468	1,415	2,168	2,920	2,321	1,633	[6] 157	19,829
1923–24					50	864	2,333	2,359	1,088								
Wisconsin:																	
1917–18					118	1,158	3,707	1,383	575	887	1,461	1,643	1,452	1,011	447	10	13,852
1918–19				1	134	2,768	4,630	2,464	1,545	2,460	1,598	2,122	1,608	963	362		20,655
1919–20					127	3,250	7,019	2,810	1,567	2,137	1,754	1,923	893	344	148	3	21,975
1920–21					18	450	3,189	2,876	1,214	2,337	1,933	2,385	2,234	1,592	431	2	18,661
1921–22					76	754	2,125	719	626	1,367	1,201	1,993	1,166	755	260	8	11,045
1922–23					205	1,377	5,685	2,018	1,635	2,495	1,906	2,992	2,716	1,735	944	55	21,763
1923–24					185	982	2,458	1,415	1,040								
Minnesota:																	
1917–18				15	1,312	1,918	4,074	1,445	675	1,261	1,510	2,119	1,328	625	179	16	16,477
1918–19				96	3,099	4,573	4,623	1,733	758	1,839	1,359	2,365	1,612	1,018	434	6	23,515
1919–20				83	2,438	5,339	5,817	1,324	693	1,875	1,162	1,900	1,027	262	117	1	22,958
1920–21				64	1,344	2,770	6,870	3,279	934	1,469	1,723	2,342	1,133	863	214	9	23,214
1921–22					960	4,869	9,029	2,197	892	1,894	1,442	4,443	2,514	1,080	248		29,568
1922–23				508	1,432	4,167	7,062	2,466	659	1,724	1,532	4,215	3,274	1,890	458	21	28,908
1923–24				15	1,754	5,980	7,936	2,650	1,120								
Nebraska:																	
1917–18					38	27	652	668	74	98	224	190	37	17	1		2,026
1918–19					110	450	1,063	709	264	370	204	320	235	87	11		8,823
1919–20				1	96	182	712	257	59	173	84	71	22	4			1,661
1920–21				1	152	338	924	600	141	306	284	261	52	11	1		3,071
1921–22				1	267	446	988	1,265	390	294	495	342	456	238	164	15	5,331
1922–23					51	570	744	903	461	376	743	432	504	530	210	40	5,564
1923–24					12	266	387	656	712	279							

Colorado:																
1917-18					230	1,754	2,165	1,254	824	1,065	980	1,674	1,537	790	177	2	12,462
1918-19				10	850	2,673	2,676	1,259	452	1,280	1,083	1,257	909	828	270		13,647
1919-20					631	2,348	2,720	864	455	687	512	431	92	47	3		8,810
1920-21				15	643	1,939	2,882	1,481	702	1,278	898	760	527	211	14		11,345
1921-22				91	1,010	3,108	2,699	1,394	917	1,981	1,510	2,125	1,521	997	188	3	17,844
1922-23				74	788	2,365	1,865	1,294	1,123	1,875	1,628	2,104	1,326	790	236	2	15,470
1923-24				205	1,112	1,692	1,765	1,131	997								
Idaho:																	
1917-18				3	100	284	909	1,291	809	856	603	911	513	615	136		7,120
1918-19				9	458	1,049	1,076	944	446	846	599	892	755	525	123	5	7,727
1919-20				24	635	1,168	1,785	1,052	450	867	384	383	89	16			6,853
1920-21				23	764	689	1,174	1,738	707	1,094	553	866	387	107	21		8,143
1921-22				166	1,945	1,401	2,304	1,064	848	1,069	939	1,713	1,936	1,087	198		14,670
1922-23				35	1,415	1,310	1,869	1,482	981	1,320	878	2,178	2,874	1,430	631	10	16,213
1923-24				66	1,763	1,540	1,467	1,677	1,292								
Washington:																	
1917-18				60	98	110	372	343	161	354	375	232	193	190	119	17	2,630
1918-19				1	33	43	112	363	219	296	206	403	818	243	126	61	2,924
1919-20				55	118	192	738	587	254	303	184	364	210	69	26		3,099
1920-21				42	114	288	756	756	157	159	163	418	589	210	113		3,765
1921-22				98	187	382	1,201	856	423	575	384	476	595	589	429		6,194
1922-23				178	190	241	479	506	294	401	339	709	1,145	398	185		5,065
1923-24				140	132	229	793	967	451								
California:																	
1917-18		138	1,534	965	583	462	494	600	455	905	921	454	259	91	3		7,864
1918-19		36	941	2,065	1,089	1,098	1,122	1,054	895	917	417	471	176	57	12	1	10,351
1919-20		65	532	1,556	1,336	1,110	971	813	647	656	374	282	97	46	2		8,487
1920-21		117	822	1,775	1,228	1,074	1,188	1,029	898	728	540	453	192	46			10,090
1921-22		89	1,129	1,754	849	886	903	626	610	737	566	584	331	177			9,241
1922-23		6	955	1,473	744	623	719	717	582	739	544	420	201	42			7,765
1923-24		110	787	717	587	740	711	539	362								
All other:																	
1917-18	11	2,084	2,642	2,242	1,900	851	2,237	1,522	582	521	915	873	557	409	135	16	17,507
1918-19	57	2,187	4,701	2,398	1,276	1,580	2,643	1,041	573	683	600	942	1,261	503	94	1	20,540
1919-20	47	318	1,925	3,069	1,028	1,451	2,101	897	452	548	383	643	311	93	20	1	13,287
1920-21	37	70	2,229	3,651	1,791	1,054	3,597	1,866	556	597	592	983	1,023	482	75	1	19,288
1921-22	[7] 276	1,959	1,446	3,771	2,194	4,200	9,298	1,504	505	879	786	1,563	1,181	657	129	4	30,352
1922-23	68	2,574	3,994	4,574	2,598	3,105	6,266	2,258	662	973	745	2,030	2,837	691	136	4	33,505
1923-24	94	1,048	3,204	5,470	4,264	3,261	7,127	1,721	509								
Total:																	
1917-18	[1] 1,483	6,835	13,923	15,478	12,910	14,292	23,542	13,536	7,120	9,555	11,009	12,619	10,212	6,714	2,287	81	161,596
1918-19	[2] 1,321	6,006	14,762	14,075	11,805	19,841	24,902	15,442	8,891	12,753	8,998	13,739	12,653	7,657	3,596	171	176,552
1919-20	[3] 791	2,226	9,707	13,684	13,626	22,257	32,535	17,362	9,532	12,883	8,725	12,771	8,359	2,922	492	8	167,870
1920-21	[4] 87	4,038	14,285	15,614	13,592	18,155	31,522	25,075	9,755	14,106	11,970	16,039	12,957	9,561	2,347	62	199,165
1921-22	[5] 2,051	5,426	15,298	16,979	16,115	26,040	43,250	16,729	10,496	16,705	13,717	22,109	17,489	11,910	4,161	71	238,546
1922-23	[6] 2,780	8,304	17,869	18,758	18,238	24,420	35,188	21,051	12,439	17,255	14,603	24,415	22,037	10,969	5,503	[8] 298	254,127
1923-24	[5] 1,183	5,311	14,789	16,435	16,799	28,235	34,209	20,121	11,417								

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] Includes 1 car in March.
[2] Includes 5 cars in March.
[3] Includes 95 cars in March.
[4] Includes 1 car in February and 221 cars in March.
[5] Includes 36 cars in March.
[6] Includes 9 cars in August.
[7] Includes 20 cars in March.
[8] Includes 115 cars in March.

TABLE 251.—*Potatoes: International trade, calendar years, 1911–1922.*

Country.	Average, 1911–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	525	1,207	923	5,583	466	3,258	347	3,609
China	36	288	----	192	----	272	----	408
Czechoslovakia	----	----	[1] 860	[1] 332	283	[1] 65	319	2,834
Denmark	40	928	30	7,954	55	2,322	123	2,244
Esthonia	----	----	----	[1] 923	----	[1] 719	----	[1] 1,712
France	7,143	8,683	2,465	7,903	5,870	8,667	13,544	5,167
Italy	242	3,975	1	3,074	706	4,260	3	4,526
Japan	----	440	----	328	----	240	----	[1] 235
Netherlands	1,952	16,451	44	14,424	350	18,321	735	11,538
Portugal	273	500	[1] 770	[1] 24	----	----	----	----
Spain	----	1,835	----	326	----	899	506	1,346
Sweden	700	64	208	1,535	657	3	78	[1] 750
United States	5,707	1,814	6,062	4,154	2,018	3,500	1,775	2,897
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	1,218	931	1,631	473	994	720	1,200	614
Argentina	1,337	543	91	1,560	----	----	----	----
Austria	----	----	6,037	(2)	4,148	24	[1] 3,666	2
Austria-Hungary	4,070	1,451	----	----	----	----	----	----
Belgium	4,921	8,692	1,520	2,371	10,946	677	6,641	2,975
Brazil	939	(2)	276	(2)	80	18	----	----
British India	----	----	752	7	769	10	874	12
Cuba	2,001	2	2,802	----	----	----	----	----
Egypt	599	[3] 28	785	4	624	13	594	215
Finland	479	15	172	----	139	16	527	[1] 1
Germany	20,180	12,412	26,852	2,109	[1] 9,728	[4] 2,148	6,158	2,408
Hungary	----	----	----	[1] 1,051	[1] 12	[1] 767	[1] 403	[1] 1
Norway	215	60	97	508	499	21	398	77
Philippine Islands	334	----	291	----	352	----	300	----
Russia	309	7,762	[1] 527	----	[1] 469	----	----	----
Switzerland	3,172	42	456	584	1,082	51	2,260	19
Tunis	[5] 294	[5] 2	316	3	313	3	320	4
United Kingdom	11,382	6,246	9,719	690	5,678	2,825	6,405	[1] 5,433
Uruguay	[3] 768	1	[1] 1,418	----	[1] 955	----	[1] 1,325	----
Other countries	931	779	2,139	871	1,818	1,280	849	455
Total	78,767	75,151	67,244	57,043	49,011	51,099	49,350	49,602

Division of Statistical and Historical Research. Compiled from official sources except where otherwise noted

[1] International Institute of Agriculture.
[2] Less than 500 bushels.
[3] One year only.
[4] Eight months, May–December.
[5] Two-year average.

TABLE 252.—*Potatoes: Farm price per bushel, 1st of month, United States, 1908–1923.*

Year beginning July 1—	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–9	77.8	83.6	78.0	74.8	69.2	70.6	72.0	73.3	80.0	86.3	97.3	97.7	77.0
1909–10	91.0	85.1	71.5	64.3	57.8	54.1	56.0	56.2	54.6	47.4	38.4	37.4	59.4
1910–11	40.1	64.9	72.9	67.8	55.7	55.7	54.1	55.1	55.3	55.5	62.5	63.3	59.5
1911–12	96.3	136.0	113.7	88.3	76.3	79.9	84.5	94.4	102.0	117.1	127.3	119.7	96.0
1912–13	103.6	86.5	65.0	51.1	45.5	50.5	50.6	53.1	52.0	50.3	48.2	55.2	55.2
1913–14	49.8	69.2	75.3	73.9	69.6	68.7	68.4	69.7	70.7	70.0	71.4	71.3	70.0
Av. 1909–1913	76.2	88.3	79.7	69.1	61.0	61.8	62.7	65.7	66.9	68.1	69.6	69.4	68.0
1914–15	81.5	87.1	74.9	64.7	52.8	48.7	49.7	50.4	50.4	47.8	50.5	50.8	58.3
1915–16	52.1	56.3	50.5	48.5	60.8	61.7	70.6	88.0	94.4	97.6	94.8	98.8	66.8
1916–17	102.3	95.4	109.3	112.0	135.7	146.1	147.3	172.4	240.7	234.7	279.6	274.0	155.2
1917–18	247.9	170.8	139.1	122.1	127.8	122.8	121.0	122.9	120.3	92.6	80.1	75.5	126.4
1918–19	94.9	141.6	148.8	143.6	127.2	119.3	116.1	114.4	109.4	105.4	118.9	121.4	126.2
1919–20	128.4	192.8	187.5	164.2	152.8	159.5	178.6	217.6	243.5	295.6	393.6	421.3	203.7
1920–21	386.0	302.9	184.9	134.8	118.3	114.5	105.6	95.6	84.0	77.8	68.0	67.1	137.0
Av. 1914–1920	156.2	149.6	127.9	112.9	110.8	110.4	112.7	123.0	134.7	135.9	155.1	158.4	124.8
1921–22	69.9	136.9	168.6	137.6	123.5	110.1	108.6	115.5	117.8	113.6	104.3	104.1	122.6
1922–23	103.3	114.8	88.0	69.6	62.8	58.1	59.3	64.7	63.6	73.6	81.3	76.6	72.6
1923–24	83.1	122.7	119.0	100.2	82.7	82.3	----	----	----	----	----	----	----

Division of Crop and Livestock Estimates.

TABLE 253.—*Potatoes: Farm price per bushel, by States, December 1, calendar years, 1909–1923, and value per acre 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Me.	61	47	42	77	55	53	55	33	70	142	130	120	140	125	100	85	45	70	180.60
N. H.	73	64	52	87	61	83	69	60	95	166	167	145	175	155	138	135	105	115	212.75
Vt.	67	44	45	79	55	72	59	47	81	139	140	138	157	125	118	104	93	100	180.00
Mass.	85	79	70	96	75	85	81	71	94	175	175	170	190	150	146	152	95	135	236.25
R. I.	86	80	69	106	77	90	84	70	92	185	175	173	180	160	148	160	90	130	214.50
Conn.	90	83	70	105	78	87	85	65	96	175	164	165	195	150	144	150	100	147	227.85
N. Y.	75	50	48	90	58	80	65	44	82	158	130	122	145	118	114	108	60	95	116.85
N. J.	89	82	65	105	66	82	80	61	75	155	141	170	169	125	128	142	72	125	118.75
Pa.	80	65	52	93	57	80	69	58	75	148	135	151	154	124	121	133	75	105	110.25
Del.	83	72	60	96	70	75	75	70	75	125	130	140	125	100	109	110	70	102	81.60
Md.	74	66	54	91	58	67	67	60	62	133	119	120	130	95	103	110	60	100	80.00
Va.	72	70	58	96	65	80	74	77	61	137	125	120	157	95	110	110	65	100	88.00
W. Va.	85	68	67	104	62	90	78	81	65	158	132	160	175	135	129	163	87	105	126.00
N. C.	77	81	73	108	76	82	84	92	73	140	143	135	163	142	127	143	101	120	108.20
S. C.	110	115	105	122	112	130	117	125	115	175	210	193	200	180	171	150	128	160	156.80
Ga.	110	100	105	110	87	105	101	105	99	175	195	185	217	208	169	165	140	160	112.00
Fla.	135	120	100	145	110	117	118	113	115	200	205	200	210	200	178	190	175	190	174.80
Ohio.	77	56	51	84	53	85	66	53	70	182	143	150	192	135	132	155	90	100	98.00
Ind.	84	52	50	87	50	84	65	56	56	177	139	135	195	133	127	145	84	86	90.30
Ill.	83	61	59	90	60	89	72	61	59	179	152	148	196	145	134	140	90	88	80.96
Mich.	58	35	31	71	41	53	46	30	56	160	105	89	135	92	95	95	34	50	57.00
Wis.	60	38	38	62	34	54	45	30	45	147	90	80	140	86	88	95	33	50	48.00
Minn.	56	35	64	58	28	52	47	32	39	130	91	75	153	80	86	90	35	55	52.80
Iowa.	60	55	60	73	40	82	63	59	54	175	131	133	192	122	124	140	57	77	64.68
Mo.	74	67	68	102	69	93	80	73	60	180	137	153	184	151	134	135	92	88	88.00
N. Dak.	56	45	91	55	28	56	55	42	41	115	130	73	160	98	94	70	31	35	29.05
S. Dak.	51	63	85	70	30	63	63	47	35	137	111	93	190	97	101	107	44	50	44.00
Nebr.	55	60	84	92	51	78	73	54	42	150	107	118	190	120	112	120	47	80	64.00
Kans.	83	79	90	106	73	91	88	77	74	165	152	144	190	150	136	135	92	99	85.14
Ky.	81	64	62	107	67	102	80	84	55	142	140	165	210	150	135	165	100	120	102.00
Tenn.	71	71	65	108	70	97	82	91	63	149	128	165	172	160	132	165	110	112	100.80
Ala.	95	98	94	118	90	105	101	101	60	169	182	181	215	200	163	170	150	150	120.00
Miss.	93	95	94	115	90	100	99	95	84	160	168	165	185	200	151	200	160	154	113.96
La.	92	91	90	100	83	96	92	97	95	167	184	150	220	203	159	180	150	150	94.50
Tex.	98	106	110	126	105	112	112	104	105	190	210	200	210	220	177	190	160	160	88.00
Okla.	98	95	100	124	93	105	103	90	84	195	180	195	205	180	161	185	125	128	84.48
Ark.	86	92	85	115	92	100	97	97	76	190	157	184	205	175	155	180	130	136	80.24
Mont.	70	51	85	74	40	67	63	64	50	120	102	80	160	105	97	80	40	73	80.30
Wyo.	66	63	82	140	60	65	82	70	60	128	104	85	190	120	108	118	50	93	88.35
Colo.	60	57	55	99	41	65	63	50	55	135	91	99	170	80	97	73	37	65	79.95
N. Mex.	90	101	104	100	65	140	102	95	95	175	165	160	190	210	156	180	145	100	80.00
Ariz.		130	126	140	125	135	131	120	100	180	150	205	195	190	163	140	90	140	84.00
Utah.	55	43	59	85	49	58	59	60	63	130	78	97	137	80	92	85	40	70	117.00
Nev.	75	85	80	93	60	68	77	70	70	130	120	125	150	156	117	120	60	105	182.70
Idaho.	60	48	65	65	20	50	51	48	56	127	70	81	151	68	87	77	31	50	87.50
Wash.	67	47	73	68	30	60	57	55	53	98	92	101	145	95	91	99	45	70	108.50
Oreg.	68	60	70	67	31	58	57	60	60	90	80	100	150	80	89	109	52	70	66.50
Calif.	77	77	85	90	65	70	77	70	75	140	150	120	171	150	125	130	72	130	195.00
U. S.	69.7	54.2	55.7	79.9	50.5	68.7	61.8	48.7	61.7	146.1	122.8	119.3	159.5	114.5	110.4	110.1	58.1	82.3	88.92

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1

TABLE 254.—*Potatoes: Monthly average jobbing prices, per 100 pounds, at ten markets, 1919-1923.*

Market, and crop movement season.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.
New York:														
1919-20	$6.25	$4.29	$4.37	$1.43	$3.39	$2.79	$2.57	$2.63	$3.09	$4.23	$4.40	$5.49	$7.58	$7.19
1920-21	------	9.08	6.93	5.54	2.56	1.83	1.93	1.96	1.82	1.89	1.31	1.54	1.28	1.22
1921-22	4.41	4.18	1.90	2.23	2.90	2.11	2.09	1.92	2.07	2.32	2.18	2.03	1.79	1.58
1922-23	4.07	3.27	3.03	1.81	1.04	.95	.96	1.22	1.36	1.39	1.44	1.87	2.09	1.76
1923-24	7.24	4.13	3.08	3.08	2.57	1.49	1.85	1.67	1.59	------	------	------	------	------
Chicago:														
1919-20	6.40	5.32	4.33	4.18	[1] 3.99	[1] 2.73	[1] 2.40	[1] 2.90	3.83	5.54	4.80	6.00	[1] 6.98	[1] 7.40
1920-21	------	9.14	8.38	[1] 6.44	[1] 3.42	[1] 2.40	[1] 1.85	[1] 2.18	[1] 1.59	[1] 1.28	[1] 1.15	[1] 1.25	[1] .98	[1] .87
1921-22	4.83	4.50	[1] 2.42	[1] 2.33	[1] 3.11	[1] 2.65	[1] 2.00	[1] 1.75	[1] 1.83	[1] 1.98	[1] 1.96	[1] 1.80	[1] 1.69	[1] 1.70
1922-23	4.16	3.57	[1] 3.08	[1] 2.29	[1] 1.63	[1] 1.17	[1] 1.00	[1] 1.05	[1] .96	[1] 1.02	[1] 1.07	[1] 1.35	[1] 1.53	[1] 1.13
1923-24	------	4.80	[1] 3.15	[1] 2.76	[1] 2.18	[1] 1.70	[1] 1.14	[1] 1.24	[1] 1.27	------	------	------	------	------
Philadelphia:														
1919-20	5.31	4.77	4.11	3.61	3.48	2.51	2.48	2.64	3.25	4.07	4.35	5.24	6.74	7.13
1920-21	[2] 11.00	8.39	6.87	5.58	2.59	1.89	1.87	2.09	1.48	1.65	1.20	[3] 1.07	1.05	1.03
1921-22	3.96	4.14	1.93	2.11	3.07	2.41	2.19	2.01	2.00	2.29	2.23	1.98	1.69	1.39
1922-23	3.76	3.13	2.89	1.77	1.10	1.00	1.09	1.25	1.32	1.38	1.36	1.79	2.17	1.64
1923-24	7.21	4.03	3.02	3.24	2.84	2.06	1.96	1.66	1.73	------	------	------	------	------
Pittsburgh:														
1919-20	6.59	4.99	4.56	4.07	4.10	3.18	2.74	2.80	3.33	4.51	4.52	5.57	7.00	7.66
1920-21	------	9.54	7.48	5.98	3.01	2.31	2.33	2.48	1.84	1.69	1.36	1.48	1.11	1.08
1921-22	4.50	4.37	2.28	2.73	3.43	2.71	2.30	2.10	2.05	2.26	2.33	2.01	1.85	1.64
1922-23	4.30	3.47	3.19	2.20	1.43	1.39	1.33	1.30	1.11	1.16	1.20	1.67	1.60	1.36
1923-24	7.30	4.44	3.35	3.44	3.13	2.38	1.87	1.46	1.33	------	------	------	------	------
St. Louis:														
1919-20	5.98	5.62	3.33	3.62	3.12	2.90	2.71	2.99	------	4.61	4.49	------	7.55	7.57
1920-21	------	10.75	8.35	6.60	3.69	2.71	2.25	2.33	1.87	1.58	1.39	1.48	1.23	1.22
1921-22	5.76	3.49	2.77	2.84	3.16	2.83	2.28	1.89	1.93	2.27	2.14	1.98	1.89	1.91
1922-23	5.87	3.84	2.96	2.49	1.73	1.53	1.26	1.20	1.10	1.16	1.18	1.44	1.59	1.45
1923-24	7.32	5.56	3.05	------	------	1.94	1.38	1.40	1.44	------	------	------	------	------
Cincinnati:														
1919-20	5.54	4.71	4.33	3.87	3.83	3.12	2.94	2.97	3.29	4.60	4.51	5.51	7.28	[3] 7.36
1920-21	------	8.65	7.59	6.40	3.41	2.57	2.19	2.60	1.92	1.68	1.58	1.77	1.22	1.13
1921-22	4.12	4.10	2.49	2.65	3.52	2.96	2.48	1.93	1.97	2.30	2.10	2.06	1.94	1.93
1922-23	3.98	3.28	3.01	2.44	1.74	1.48	1.30	1.17	1.15	1.20	1.21	1.46	1.45	1.27
1923-24	6.62	4.43	3.33	------	------	1.85	1.36	1.24	1.26	------	------	------	------	------
St. Paul:														
1919-20	------	------	4.12	4.15	------	------	------	------	------	------	------	------	------	------
1920-21	------	------	8.98	8.44	------	------	------	------	------	------	------	------	------	------
1921-22	------	------	3.06	3.05	3.49	------	------	------	------	------	------	------	------	------
1922-23	------	------	3.46	------	------	------	------	------	------	------	------	------	------	------
1923-24	------	------	3.55	3.18	------	------	------	------	------	------	------	------	------	------
Minneapolis:														
1919-20	------	------	[4] 4.73	4.13	------	------	------	------	------	------	------	------	------	------
1920-21	------	------	9.02	8.29	------	------	------	------	------	------	------	------	------	------
1921-22	------	------	3.05	2.90	3.43	------	------	------	------	------	------	------	------	------
1922-23	------	------	3.36	2.86	------	------	------	------	------	------	------	------	------	------
1923-24	------	------	3.37	3.04	------	------	------	------	------	------	------	------	------	------
Kansas City:														
1919-20	8.11	7.01	3.32	------	------	------	------	------	------	------	------	------	------	------
1920-21	------	------	8.77	------	2.81	2.69	2.06	2.27	------	------	------	------	[1] 1.37	[1] 1.20
1921-22	6.39	3.93	3.06	------	3.09	2.63	[1] 1.97	[1] 1.51	[1] 1.65	[1] 2.04	[1] 1.99	[1] 1.88	[1] 1.77	[1] 1.84
1922-23	5.62	3.93	2.87	------	------	[1] 1.23	[1] 1.12	[1] 1.07	[1] 1.04	[1] 1.05	[1] 1.07	[1] 1.24	[1] 1.21	[1] 1.05
1923-24	------	6.14	2.99	------	[1] 1.79	[1] 1.52	[1] 1.16	[1] 1.30	[1] 1.30	------	------	------	------	------
Washington.[5]														
1919-20	6.45	5.33	4.56	3.88	3.98	3.03	2.86	2.96	3.44	4.59	4.81	5.54	7.48	7.95
1920-21	------	9.05	6.81	5.82	3.26	2.23	2.22	2.52	2.32	2.12	1.69	1.71	1.53	1.26
1921-22	4.73	4.32	2.11	2.39	3.27	2.83	2.61	2.43	2.28	2.62	2.58	2.44	2.27	2.18
1922-23	4.48	3.60	2.91	2.21	1.49	1.37	1.39	1.49	1.48	1.48	1.41	1.73	1.99	1.60
1923-24	7.73	4.67	3.25	3.64	3.44	2.43	1.83	1.54	1.70	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Crop movement season for each crop extends from April of one year through May of the following year, with irregular quotations continuing through June and July. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Carlot sales.
[2] Eight day average.
[3] Bulk only.
[4] Sales direct to retailers.
[5] Sales direct to retailers except September-December, 1923.

TABLE 255.—*Potatoes, "Maine" and "State and Western": Average wholesale prices per bushel at New York, 1900–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May.
1900–1	$0.50	$0.45	$0.46	$0.56	$0.56	$0.52	$0.48	$0.48	$0.61
1901–2	.76	.72	.76	.78	.76	.75	.84	.85	.75
1902–3	------	.62	.58	.60	.66	.66	.68	.64	.67
1903–4	.48	.60	.50	.74	.81	.94	.96	1.16	1.02
1904–5	.48	.51	.51	.50	.49	.46	.42	.36	.30
1905–6	.62	.67	.74	.68	.66	.60	.68	.80	.76
1906–7	.55	.58	.51	.48	.48	.57	.60	.56	.74
1907–8	.56	.63	.58	.64	.70	.81	.83	.84	.80
1908–9	.74	.69	.79	.79	.79	.81	.88	.92	.91
1909–10	.65	.56	.56	.56	.58	.54	.49	.40	.39
1910–11	.55	.55	.51	.49	.52	.49	.47	.62	.57
1911–12	.81	.79	.90	.95	1.12	1.14	1.28	1.38	1.25
1912–13	.60	.59	.64	.68	.63	.67	.62	.66	.77
1913–14	.74	.69	.71	.70	.80	.83	.81	.85	.85
Average 1909–1913	.67	.64	.66	.68	.73	.73	.73	.78	.77
1914–15	.62	.56	.54	.51	.51	.48	.47	.50	.46
1915–16	------	.78	.76	.99	1.22	1.21	1.23	1.14	1.12
1916–17	1.18	1.25	1.60	1.61	1.98	2.67	2.67	3.00	3.18
1917–18	1.20	1.62	1.37	1.39	1.66	1.47	1.14	1.11	.82
1918–19	1.58	1.44	1.37	1.50	1.42	1.26	1.11	1.43	1.40
1919–20	1.51	1.37	1.57	1.79	2.31	2.64	3.33	4.28	4.17
1920–21[1]	------	1.26	1.38	1.27	1.10	.88	.88	.78	.66
Average 1914–1920	------	1.18	1.24	1.28	1.47	[illegible]1.52	1.55	1.75	1.70
1921–22	1.37	1.16	1.25	1.23	1.45	1.35	1.25	1.12	.90
1922–23	.86	.78	.82	.86	.93	.96	1.21	1.25	1.10
1923–24	1.40	1.13	1.06	1.05	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Producer's Price Current.

[1] First two weeks of October, 1920, are quotations on Jerseys.

SWEET POTATOES.

TABLE 256.—*Sweet potatoes: Acreage, production, and value, United States, 1849–1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per acre.[1]
	1,000 acres.	*Bushels.*	*1,000 bushels.*	*Cents.*	*1,000 dollars*	*Dollars.*
1849	------	------	*38,368*	------	------	------
1859	------	------	*42,065*	------	------	------
1869	------	------	*21,710*	------	------	------
1879	------	------	*33,379*	------	------	------
1889	------	------	*49,950*	------	------	------
1899	537	77.5	41,593	53.0	22,065	41.09
1900	544	88.9	48,346	50.6	24,478	45.00
1901	547	81.7	44,697	57.5	25,720	47.02
1902	532	85.2	45,344	58.1	26,358	49.55
1903	548	89.2	48,870	58.3	28,478	51.97
1904	548	88.9	48,705	60.4	29,424	53.69
1905	551	92.6	51,034	58.3	29,734	53.96
1906	554	90.2	49,948	62.2	31,063	56.07
1907	565	88.2	49,814	70.0	34,858	61.70
1908	599	92.4	55,352	66.1	36,564	61.04
1909	647	90.1	57,764	68.5	39,585	61.76
1910	641	93.5	59,938	67.1	40,216	62.74
1911	605	90.1	54,538	75.5	41,202	68.10
1912	583	95.2	55,479	72.6	40,264	69.06
1913	625	94.5	59,057	72.6	42,884	68.61
Average, 1909–1913	619	92.7	57,355	71.2	40,830	65.96
1914	603	93.8	56,574	73.0	41,294	68.48
1915	731	103.5	75,639	62.1	46,980	64.27
1916	784	91.7	70,955	84.8	60,141	77.70
1917	919	91.2	83,822	110.8	92,916	101.11
1918	940	93.5	87,924	135.2	118,864	126.45
1919	941	103.2	97,126	134.4	130,514	138.70
1920	992	104.8	103,925	113.4	117,834	118.78
Average, 1914–1920	843	97.6	82,281	105.7	86,935	103.13
1921	1,066	92.5	98,654	88.1	86,894	81.51
1922	1,117	97.9	109,394	77.1	84,295	75.47
1923[2]	993	97.9	97,177	97.9	95,091	95.76

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

[2] Preliminary.

TABLE 257.—*Sweet potatoes: Acreage, production, and total farm value, by States, calendar years, 1921–1923.*

State.	Thousands of acres.			Production, thousands of bushels.			Total value, basis Dec. 1 price, thousands of dollars.		
	1921	1922	1923 [1]	1921	1922	1923 [1]	1921	1922	1923 [1]
New Jersey	17	20	18	1,870	3,500	2,196	3,179	2,520	3,184
Pennsylvania	2	2	2	248	280	260	446	311	364
Delaware	9	11	9	900	1,716	1,008	990	858	1,159
Maryland	9	10	9	900	1,530	1,170	1,260	765	1,346
Virginia	44	46	44	4,180	6,210	5,280	5,225	5,403	5,544
West Virginia	3	3	3	345	402	390	621	563	577
North Carolina	102	110	100	10,302	12,430	10,500	9,993	9,944	10,290
South Carolina	83	104	94	7,885	9,568	9,118	7,096	6,793	7,841
Georgia	146	152	137	12,410	12,616	11,508	7,818	7,696	8,746
Florida	32	32	30	2,720	2,720	2,940	2,611	2,557	3,410
Ohio	3	3	3	321	360	336	571	486	504
Indiana	3	3	3	396	375	354	594	450	442
Illinois	9	9	8	990	855	880	891	898	968
Iowa	3	4	4	312	312	280	546	437	420
Missouri	14	14	14	1,400	1,330	1,512	1,400	1,396	1,633
Kansas	4	4	3	500	416	321	575	437	401
Kentucky	18	20	20	1,872	2,020	2,060	2,153	2,222	2,472
Tennessee	44	44	35	4,400	4,180	3,850	4,180	3,260	3,850
Alabama	135	142	113	12,150	13,490	11,752	8,870	10,118	9,754
Mississippi	107	109	101	8,560	11,445	9,898	6,334	7,897	9,007
Louisiana	88	85	78	8,272	7,820	7,020	5,377	4,770	6,669
Texas	100	105	86	8,200	8,715	6,880	6,970	7,408	7,843
Oklahoma	27	27	30	2,646	2,052	2,700	2,805	2,421	3,051
Arkansas	54	47	40	5,670	3,760	3,800	4,649	3,346	3,496
New Mexico	1	1	1	120	112	134	312	224	268
Arizona	1	2	2	125	300	340	228	525	714
California	8	8	6	960	880	690	1,200	590	1,138
United States	1,066	1,117	993	98,654	109,394	97,177	86,894	84,295	95,091

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 258.—*Sweet potatoes: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
New Jersey	133	123	140	130	120	138	130	100	155	100	120	115	125	143	123	110	175	122
Pennsylvania	102	88	105	121	120	110	109	105	105	100	110	120	140	138	117	124	140	130
Delaware	125	125	115	140	120	135	127	120	135	125	112	120	138	128	125	100	156	112
Maryland	110	115	110	115	125	141	121	125	130	126	118	130	140	126	128	109	153	130
Virginia	95	100	100	90	90	108	98	92	110	130	104	120	140	127	118	95	135	120
West Virginia	72	100	101	110	115	91	103	92	110	140	140	106	115	119	117	115	134	130
North Carolina	93	99	105	86	90	100	96	90	105	107	95	110	107	104	103	101	113	105
South Carolina	88	95	91	84	105	92	93	85	105	86	95	95	90	105	94	95	92	97
Georgia	86	93	83	81	90	87	87	85	85	80	93	92	92	93	89	85	83	84
Florida	115	105	108	108	112	110	109	120	112	100	95	110	100	95	105	85	85	98
Ohio	83	110	98	113	118	90	106	110	95	99	95	96	100	103	100	107	120	112
Indiana	71	101	104	114	116	78	103	100	104	100	106	108	105	120	106	132	125	118
Illinois	80	110	110	89	98	70	95	84	110	90	97	82	95	97	94	110	95	110
Iowa	93	110	98	105	90	80	97	100	95	91	90	93	67	104	91	104	78	70
Missouri	91	90	102	91	88	56	85	84	100	70	112	91	104	110	96	100	95	108
Kansas	105	96	101	75	99	50	84	110	110	92	92	80	109	135	104	125	104	107
Kentucky	84	88	85	96	90	75	87	105	105	90	95	95	105	105	100	104	101	103
Tennessee	89	87	85	85	90	80	85	100	105	100	95	98	112	102	102	100	95	110
Alabama	85	80	85	97	100	95	91	93	90	74	90	96	94	97	91	90	95	104
Mississippi	92	82	94	85	97	98	91	90	110	82	65	95	105	110	94	80	105	98
Louisiana	86	90	93	90	84	85	88	87	92	90	79	75	90	101	88	94	92	90
Texas	88	50	56	71	75	80	66	101	98	89	78	58	110	105	91	82	83	80
Oklahoma	88	70	70	75	92	64	74	102	115	74	90	65	110	115	96	98	76	90
Arkansas	100	58	98	92	88	90	85	95	130	91	110	90	100	105	103	105	80	95
New Mexico	125	180	100	150	141	125	139	143	160	125	118	125	120	118	130	120	112	134
Arizona	140	163	120	200	140	135	152	200	150	160	150	135	150	125	153	125	150	170
California	105	160	160	140	158	170	157	161	135	160	167	170	130	127	150	120	110	115
United States	92.4	90.1	93.5	90.1	95.2	94.5	92.7	93.8	108.5	91.7	91.2	93.5	103.2	104.8	97.4	92.5	97.9	97.9

Division of Crop and Livestock Estimates.

TABLE 259.—*Sweet potatoes: Condition of crop, 1st of month, and yield per acre, United States, 1869–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Bush.*
1869	98.9	97.0	106.8	80.2	78.7	1899	85.1	84.1	80.7	74.9	77.5
1870	99.3	100.8	101.9	104.3	107.4	1900	93.7	92.2	83.6	80.0	88.9
1871	98.6	93.9	90.5	88.5	99.0	1901	93.1	80.7	78.7	79.0	81.7
1872	95.9	98.1	95.1	87.4	83.5	1902	83.6	78.3	77.2	79.7	85.2
1873	98.8	97.9	100.3	100.8	97.2	1903	90.2	88.7	91.1	83.7	89.2
1874	95.2	95.2	86.5	88.5	82.4	1904	87.3	88.5	89.9	86.1	88.9
1875	97.8	94.2	96.1	94.8	89.0	1905	90.6	90.1	89.5	88.6	92.6
1876	102.6	101.9	100.6	96.5	------	1906	90.9	91.2	88.7	86.0	90.2
1877	96.2	95.7	91.4	------	------	1907	85.9	85.7	85.7	82.7	88.2
1878	100.3	98.9	98.2	------	98.9	1908	89.8	88.8	88.7	85.5	92.4
1879	87.1	82.1	90.5	------	90.4	1909	89.7	86.9	81.3	77.8	90.1
1880	99.2	98.3	99.6	------	101.8	1910	87.3	85.4	83.9	80.2	93.5
1881	91.5	78.5	70.4	------	------	1911	78.4	77.7	79.1	78.1	90.1
1882	100.6	102.0	104.4	104.6	96.2	1912	86.9	85.0	84.1	82.0	95.2
1883	95.5	90.3	82.1	77.3	78.0	1913	86.5	85.8	81.4	80.1	94.5
1884	96.1	96.9	91.6	83.4	78.8	Av. 1909–1913	85.8	84.2	82.0	79.6	92.7
1885	97.5	97.8	95.0	95.6	96.4						
1886	95.3	94.8	93.1	91.7	87.5	1914	77.1	75.5	81.8	80.7	93.8
1887	97.2	95.7	89.8	83.4	80.8	1915	88.7	85.5	87.5	85.0	103.5
1888	95.6	------	93.0	94.6	97.2	1916	90.4	85.9	82.7	79.2	91.7
						1917	81.9	84.8	85.7	83.2	91.2
1889	92.9	93.2	93.9	------	87.2						
1890	96.0	89.9	88.7	90.3	99.3	1918	86.4	78.3	74.5	77.4	93.5
1891	93.7	93.7	92.0	87.5	88.5	1919	90.1	87.1	86.0	83.9	103.2
1892	95.0	92.2	90.8	89.8	88.0	1920	87.2	86.9	86.8	87.1	104.8
1893	93.7	89.4	88.8	84.2	87.2						
						Av. 1914–1920	86.0	83.4	83.6	82.4	97.4
1894	88.4	89.7	91.4	91.6	92.4						
1895	91.4	91.0	89.3	81.2	79.1	1921	85.1	84.5	80.7	77.0	92.5
1896	89.3	87.1	71.7	71.1	70.8	1922	88.2	86.3	82.4	79.0	97.9
1897	86.5	86.4	85.4	------	72.0	1923	82.8	80.0	79.1	80.2	97.9
1898	------	92.0	90.6	89.9	98.3						

Division of Crop and Livestock Estimates.

[1] Condition at time of harvest.

TABLE 260.—*Sweet potatoes: Carlot shipments, by States of origin, 1917–1922.*

State.	Year beginning July 1—					Quarters, 1922–23				
	1917–18	1918–19	1919–20	1920–21	1921–22	July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June.	Total.
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New Jersey	1,955	1,785	2,237	2,948	2,212	557	1,215	938	[1] 148	2,858
Delaware	670	1,377	1,212	1,799	1,722	2	677	1,592	361	2,632
Maryland	607	441	1,179	1,473	1,325	349	697	535	168	1,749
Virginia:										
Eastern Shore	5,476	2,948	5,561	4,899	4,786	3,083	3,184	41	18	6,326
Other	139	76	179	634	334	222	60	12	13	307
North Carolina	463	708	750	884	1,015	357	57	113	152	679
South Carolina	------	------	------	58	135	1	35	126	73	235
Georgia	152	525	481	906	1,375	80	209	335	157	781
Tennessee	114	545	1,212	901	1,568	94	326	770	301	1,491
Alabama	225	342	401	482	680	364	31	81	61	537
Louisiana	51	150	211	647	912	266	262	365	140	1,033
Texas	186	329	506	622	752	244	369	319	42	974
Arkansas	159	149	355	498	578	7	68	151	14	240
California	314	800	640	708	998	169	605	194	14	982
All other	146	365	561	415	918	[2] 165	230	280	65	740
Total	10,657	10,540	15,485	17,934	19,310	[2] 5,960	8,025	5,852	[1] 1,727	21,564

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[1] Includes 4 cars in July.

[2] Includes 2 cars in June.

TABLE 261.—*Sweet potatoes: Farm price per bushel, 1st of month, United States, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May.	June.	Weighted av.
	Cts.	*Cts.*	*Cts*	*Cts.*	*Cts*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	
1910–11	75.1	78.2	81.2	77.6	71.8	67.1	75.0	80.4	84.4	91.2	99.3	98.7	77.9
1911–12	99.0	105.8	102.6	91.8	80.9	75.5	83.0	90.2	98.0	109.9	118.0	115.0	92.5
1912–13	112.2	107.8	95.7	84.4	76.8	72.6	80.4	85.4	88.9	92.6	93.8	92.0	87.1
1913–14	90.1	94.1	94.3	83.9	75.7	72.6	79.2	84.3	86.7	89.6	94.5	94.2	84.6
Av. 1910–1913	91.4	96.5	93.4	84.4	76.3	72.0	79.4	85.1	89.5	95.8	101.4	100.0	85.5
1914–15	82.6	97.5	92.8	87.3	76.3	73.0	79.0	82.0	84.7	90.7	96.6	96.7	85.0
1915–16	88.9	86.8	84.6	72.7	63.7	62.1	64.9	71.2	77.3	78.0	80.5	83.4	73.5
1916–17	79.4	87.1	89.9	83.7	80.6	84.8	90.1	95.8	110.7	124.0	141.3	149.4	91.4
1917–18	140.5	129.3	132.6	116.1	111.2	110.8	117.2	123.1	142.7	151.6	155.0	148.8	124.1
1918–19	124.3	144.7	156.2	160.6	146.0	135.2	142.1	143.1	153.7	160.7	174.6	173.7	149.8
1919–20	159.8	167.9	175.4	154.7	143.9	134.4	138.2	156.6	172.2	185.8	205.2	216.6	157.8
1920–21	213.6	223.5	200.7	160.8	122.1	113.4	113.0	117.8	119.8	127.4	127.2	128.8	149.7
Av. 1914–1920	128.4	133.7	133.2	119.4	106.3	102.0	106.4	112.8	123.0	131.2	139.9	142.5	118.8
1921–22	125.0	144.1	135.6	108.3	89.5	88.1	95.1	98.8	110.7	111.7	114.1	121.2	109.8
1922–23	119.0	128.4	107.6	94.8	80.7	77.1	82.9	87.3	92.3	98.6	103.8	105.8	95.0
1923–24	114.0	123.3	133.7	111.6	102.2	97.9							

Division of Crop and Livestock Estimates.

TABLE 262.—*Sweet potatoes: Farm price per bushel, by States, December 1, calendar years, 1908–1923, and value per acre 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920.	1921	1922	1923	Value per acre 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
N. J.	82	79	61	100	84	78	80	95	70	120	160	190	220	155	144	170	72	145	176.90
Pa.	93	89	75	105	75	90	87	86	75	135	140	185	180	155	137	180	111	140	182.00
Del.	70	60	55	70	68	60	63	70	62	81	120	125	110	100	95	110	50	115	128.80
Md.	70	68	58	75	63	60	65	70	70	88	100	150	133	115	104	140	50	115	149.50
Va.	68	70	63	74	75	70	70	76	65	90	110	145	155	95	105	125	87	105	126.00
W. Va.	94	85	88	100	90	100	93	98	92	126	140	204	210	150	146	180	140	148	192.40
N. C.	53	57	55	63	62	61	60	65	56	75	105	132	138	114	98	97	80	98	102.90
S. C.	61	63	64	72	68	75	68	70	65	85	104	142	148	117	104	90	71	86	83.42
Ga.	58	62	65	73	66	68	67	69	61	81	105	125	110	97	93	63	61	76	63.84
Fla.	70	71	75	83	73	75	75	80	68	86	115	125	140	120	105	90	94	116	113.68
Ohio	101	84	86	100	87	106	93	98	98	150	175	175	215	175	155	178	135	150	168.00
Ind.	102	84	83	96	89	103	91	90	90	150	165	195	215	160	152	150	120	125	147.50
Ill.	102	84	89	110	95	106	97	95	82	125	150	175	175	135	134	90	105	110	121.00
Iowa	100	92	105	110	108	150	113	127	108	192	210	210	250	247	192	175	140	150	105.00
Mo.	87	88	83	105	95	105	95	96	82	150	141	186	187	155	142	100	105	108	116.64
Kans.	106	107	103	130	103	110	111	106	100	150	160	222	185	160	155	115	105	125	133.75
Ky.	82	73	75	88	85	94	83	77	70	100	125	175	160	150	122	115	110	120	122.60
Tenn.	63	68	69	75	72	80	73	69	59	87	105	136	117	123	99	95	78	100	110.00
Ala.	63	68	65	68	71	67	68	65	57	74	92	115	113	100	88	73	76	88	86.32
Miss.	68	69	60	62	62	62	63	68	55	67	97	104	112	105	86	74	69	91	89.18
La.	63	59	65	60	65	70	64	64	50	66	104	128	115	93	89	65	61	95	85.50
Tex.	77	99	108	104	104	95	102	87	70	99	140	175	150	130	120	85	85	114	91.20
Okla.	89	114	110	125	109	104	112	89	73	135	160	220	180	132	141	100	118	113	101.70
Ark.	71	99	73	82	90	80	83	77	61	90	96	138	115	105	97	82	89	92	87.40
N. Mex.	108	120	118	144	105	130	123	113	120	189	205	250	225	220	188	260	200	200	268.00
Ariz.	140	140	140	160	150	170	152	150	150	186	227	238	250	230	204	182	175	210	387.66
Calif.	80	90	95	110	94	100	98	87	80	100	150	150	179	160	129	125	67	165	189.75
U. S.	66.1	70.8	67.1	75.5	72.6	72.6	71.7	73.0	62.1	84.8	110.8	135.2	134.4	113.4	102.0	98.1	77.1	97.9	95.76

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 263.—*Sweet potatoes: Average jobbing prices per bushel at 10 markets, 1920–1923.*

Market, and year beginning Aug. 1.	August.[1]		September.[2]		October average.	November average.	December average.	January average.	February average.	March average.	April.		May.	
	Range.	Average.	Range.	Average.							Range.	Average.	Range.	Average
New York:														
1920–21	$2.31–$3.08	$2.70	$1.04–$2.77	$1.76	$1.36	$1.23	$1.56	$1.76	$1.82	$2.40	$1.50–$2.75	$2.32	$2.00–$3.00	$2.73
1921–22	1.23– 2.00	1.51	.88– 2.25	1.48	1.26	1.36	1.67	2.02	1.93	1.92	1.50– 2.50	2.27	1.25– 2.50	2.23
1922–23			.50– 1.75	1.00	.70	.73	.96	1.03	1.01	.94	.75– 2.00	1.39		
1923–24			.46– 1.75	1.16	1.20	1.95	2.51							
Chicago:														
1920–21	2.00– 3.00	2.61	1.35– 2.85	2.05	1.85	1.96	2.21	2.20	2.29	2.35	1.75– 3.25	2.40	1.75– 2.50	2.13
1921–22	1.14– 2.75	2.01	.80– 2.50	1.70	1.57	1.49	1.65	1.81	1.89	1.93	1.00– 2.50	1.69	.75– 2.40	1.29
1922–23			.69– 2.75	1.44	1.00	1.22	1.26	1.43	1.44	1.47	1.00– 2.50	1.62		
1923–24			1.08– 2.35	1.67	1.52	2.03	2.73							
Philadelphia:														
1920–21	1.23– 2.77	2.27	.85– 2.31	1.40	.99	.84	1.35	1.53	1.55	1.74	1.25– 2.00	1.66	.80– 1.90	1.63
1921–22	1.15– 1.50	1.33	.92– 1.36	1.14	1.02	1.03	1.43	1.51	1.65	1.72	1.00– 1.80	1.42		
1922–23			.46– 1.00	.68	.57	.41	.68	.65	.58	61	.60– 1.00	.76		
1923–24			.54– 1.08	.80	.84	1.18	1.98							
Pittsburgh:														
1920–21	2.31	2.31	1.31– 3.00	1.95	1.49	1.38	1.95	1.91	1.73	2.03	1.40– 2.15	1.89	1.50– 2.15	1.92
1921–22	.75– 2.50	1.55	1.14– 2.25	1.62	1.49	1.59	1.69	1.88	1.94	1.82	1.25– 2.00	1.71	.75– 2.00	1.32
1922–23			.62– 2.25	1.14	.90	.87	.98	1.15	1.10	.81	.75– 1.50	1.03		
1923–24			.92– 2.15	1.45	1.43	1.94	2.47							
St. Louis:														
1920–21	1.75– 2.75	2.25	.86– 2.30	1.66	1.16	1.61	1.40	1.68	1.85	1.78	1.50– 2.10	1.80	1.80– 1.90	1.84
1921–22	1.00– 1.40	1.23	.50– 1.38	1.09	.94		1.11	1.20	1.10	1.18	.70– 1.90	1.04		
1922–23			.65– 1.00	.87	.84	.92	.98	1.03	.97	.96	.90– 1.50	1.12		
1923–24						1.49	1.97							
Cincinnati:														
1920–21	1.77– 2.35	1.98	1.00– 2.19	1.63	1.31	1.15	1.54	1.71	1.95	1.78	1.31– 3.00	1.80	1.35– 2.10	1.89
1921–22	.90– 1.54	1.19	.90– 1.40	1.21	1.11	.98	1.27	1.21	1.16	1.15	.75– 1.15	1.03	.40– 1.15	.80
1922–23			.69– 1.15	.84	.66	.65	.88	1.05	1.02	.96	.90– 1.35	1.12		
1923–24			1.08– 1.15	1.12	1.09	1.48	2.06							
St. Paul:														
1920–21			1.92– 4.00	2.86	2.13	2.03	2.05	2.18	2.26	2.37	2.25	2.25		
1921–22			1.50– 3.00	2.05	1.77	1.79	1.89	2.19	1.88	1.88	1.15– 2.25	1.66	1.00– 2.00	1.85
1922–23			1.00– 2.50	1.52	1.24	1.36	1.69	1.71	1.65	1.34				
1923–24			1.38– 2.50	1.91	1.67	1.97	2.82							
Minneapolis:														
1920–21	3.08– 3.25	3.19	1.88– 3.75	2.80	2.03	1.99	2.09	2.25	2.28	2.41	2.25	2.25		
1921–22	2.15– 3.25	2.47	1.62– 2.75	2.24	1.89	1.85	2.07	2.19	1.85	2.08	1.25– 2.75	1.76	.25– 2.00	.95
1922–23			1.00– 2.65	1.76	1.21	1.40	1.81	1.87	1.60	1.50	1.25– 2.15	1.63		
1923–24			1.35– 2.50	1.92	1.65	2.09	2.96							

[1] Quotations began Aug. 23, 1920 and 1921.

[2] Quotations began Sept. 18, 1923.

TABLE 263.—*Sweet potatoes: Average jobbing prices per bushel at 10 markets, 1920–1923*—Continued.

Market, and year beginning Aug. 1.	August.[1]		September.[2]		October average.	November average.	December average.	January average.	February average.	March average.	April.		May.	
	Range.	Average.	Range.	Average.							Range.	Average.	Range.	Average.
Kansas City:														
1920–21	$2.00–$2.25	$2.15	$1.50–$2.00	$1.75		$1.62	$1.48	$1.59	$1.64	$1.66	$1.75–$2.25	$1.92	$1.85–$2.25	$2.01
1921–22	1.50– 1.65	1.56	1.00– 1.50	1.25	$1.01	1.10	1.21	1.30	1.22	1.19	.85– 1.25	1.09	.85– 1.00	.92
1922–23			.75– 1.00	.89	.78	.62	1.04	1.12	1.12	1.13	.90– 1.75	1.19		
1923–24							1.54							
Washington:														
1920–21 [3]	2.15– 2.62	2.36	1.08– 2.46	1.63	1.17	1.06	1.09	1.66	1.73	1.72	1.38– 2.00	1.59	1.62– 2.50	1.89
1921–22 [3]	1.27– 1.62	1.40	.85– 1.35	1.10	.97	.96	1.26	1.58	1.68	1.68	1.08– 1.50	1.32	1.00– 1.40	1.14
1922–23 [3]			.46– .69	.62	.58	.73	.68	1.06	1.06	.96	.62– 1.25	.96		
1923–24			.77– 1.38	1.06	.95	1.19	1.37							

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Quotations began Aug. 23, 1920 and 1921.

[2] Quotations began Sept. 18, 1923.

[3] Sales direct to retailers.

TOMATOES.

TABLE 264.— *Tomatoes: Commercial acreage, yield per acre, and production, for table and canning stock, 1921–1923.*

State.	Acreage.			Yield per acre.			Production.		
	1921	1922	1923 [1]	1921	1922	1923	1921	1922	1923 [1]
	Acres.	*Acres.*	*Acres.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Arkansas	1,030	5,780	7,920	3.3	4.0	2.4	3,400	23,100	19,008
California	15,230	31,310	43,860	5.4	7.0	6.7	82,200	219,200	293,900
Colorado	910	2,430	3,830	6.2	8.3	5.2	5,600	20,200	19,908
Delaware	2,530	12,640	24,590	4.9	3.9	5.4	12,400	49,300	132,809
Florida	18,040	33,710	36,360	4.0	3.6	3.1	72,200	121,400	112,709
Illinois	6,080	12,500	9,270	3.5	4.5	3.4	21,300	56,200	31,500
Indiana	25,150	56,040	69,490	5.0	5.8	3.0	125,800	325,000	208,500
Iowa	2,240	3,180	3,960	3.3	6.7	5.5	7,400	21,300	21,900
Kentucky	4,300	8,820	9,350	3.4	3.9	2.6	14,600	34,400	24,300
Maryland	12,830	41,300	49,140	4.2	3.6	5.4	53,900	148,700	265,400
Michigan	1,920	5,100	3,900	5.6	4.8	3.7	10,800	24,500	14,400
Mississippi	7,150	11,180	11,110	3.1	3.7	2.4	22,200	41,400	26,709
Missouri	5,410	17,510	22,490	2.9	3.2	2.5	15,700	56,000	56,209
New Jersey	23,360	27,160	30,740	5.0	5.2	4.8	116,800	141,200	147,600
New York	6,360	14,680	16,560	8.2	7.9	4.2	52,200	116,000	69,609
Ohio	7,860	16,850	17,880	5.5	5.4	4.7	43,200	91,000	84,000
Pennsylvania	1,480	4,280	5,200	4.9	5.7	4.5	7,300	24,400	23,400
South Carolina	350	1,100	1,600	2.9	3.0	2.9	1,000	3,300	4,600
Tennessee	2,890	9,220	9,020	2.7	3.3	2.1	7,800	30,400	18,900
Texas	8,730	12,490	6,590	3.3	2.1	2.4	28,800	26,200	15,809
Utah	1,250	3,820	4,890	12.3	10.0	8.8	15,400	38,200	43,008
Virginia	3,460	10,710	15,650	3.0	4.3	4.2	10,400	46,100	65,709
West Virginia	1,110	570	490	3.0	4.3	2.9	3,300	2,500	1,400
Wisconsin	200	220	360	3.2	4.0	6.1	600	900	2,209
Other States	430	820	1,720	4.0	4.5	3.2	1,700	3,700	5,500
Total	160,300	343,420	405,990	4.6	4.8	4.2	736,000	1,664,600	1,708,900

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 265.—*Tomatoes: Carlot shipments by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	143	381	457	845	1,098	1,902	1,112
New Jersey	2,239	2,006	1,012	2,356	2,130	1,930	1,621
Delaware	877	1,130	502	153	189	413	321
Maryland	237	200	206	138	128	278	267
Florida	4,695	3,700	4,501	3,749	5,774	10,288	9,957
Ohio	628	799	489	330	351	557	934
Indiana	524	1,150	948	1,148	528	1,303	1,106
Illinois	487	393	234	340	155	229	249
Tennessee	947	654	368	805	357	920	494
Mississippi	1,063	1,379	1,388	1,363	1,961	3,441	2,144
Texas	1,278	1,123	1,205	1,286	1,954	1,844	1,085
California	519	1,514	2,186	1,958	1,714	2,305	3,273
All other	478	1,042	1,007	1,085	860	1,258	1,229
Total	14,115	15,471	14,503	15,556	17,199	26,668	23,792

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 266.—*Tomatoes: Farm price, per bushel, 15th of month, United States, 1913–1923.*

Month.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
July	161.4	167.4	141.4	161.5	194.3	219.1	240.3	324.4	319.6	270.0	310.7
August	95.8	92.5	66.4	88.4	124.3	133.1	177.0	168.4	142.4	102.0	165.2
September	68.0	63.0	56.9	75.6	109.5	103.0	137.2	104.4	103.6	------	106.6
October	73.0	60.3	67.9	82.1	117.6	108.6	117.7	98.9	113.5	79.6	122.8

Division of Crop and Livestock Estimates.

TABLE 267.—*Tomatoes: Average jobbing prices, per 4-basket and 6-basket carriers at 10 markets, 1921–1923.*

Market, and calendar year.	4-basket carrier.		6-basket carrier, June.	Market, and calendar year.	4-basket carrier.		6-basket carrier, June.
	June.	July.			June.	July.	
New York:				Cincinnati:			
1921	$1.70	$1.20	$2.96	1921	$1.52	$1.05	$2.63
1922	1.14		2.03	1922	.88		2.01
1923	2.32		4.23	1923			
Chicago:				St. Paul:			
1921	1.59	1.05		1921			
1922	1.18		2.98	1922	1.23		2.80
1923	2.13			1923	2.11		
Philadelphia:				Minneapolis:			
1921	1.41		2.58	1921			
1922	1.06		1.77	1923	1.30		
1923	2.11		3.46	1923	2.20		
Pittsburgh:				Kansas City:			
1921	1.58	1.22	3.19	1921	1.08	.67	
1922	1.16			1922			
1923	2.15		3.82	1923	2.34		
St. Louis:				Washington: [1]			
1921	1.61	.71		1921		1.32	3.03
1922				1922	1.21		3.21
1923	2.15			1923	2.19		4.31

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

[1] Sales direct to retailers.

TABLE 268.—*Tomatoes, canned: Production in the United States, calendar years, 1891–1923.*

State.	1891	1892	1893	1894	1895	1896
	Cases.[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]
Massachusetts	10,000	6,557	3,400	9,800	5,000	
Connecticut	14,400	14,750	9,500	19,325	18,000	10,200
New York	114,774	146,290	160,887	184,378	150,617	96,308
New Jersey	950,833	862,692	977,242	1,378,090	756,041	686,490
Pennsylvania	15,000	18,920	24,364	21,099	10,825	7,450
Delaware	264,950	175,700	271,277	399,125	280,934	362,319
Maryland	744,010	977,742	1,417,626	2,159,876	1,317,606	1,031,500
Virginia [2]	98,360	60,386	45,020	67,125	87,830	49,830
North Carolina	3,900	1,500	7,350	8,879	22,210	
South Carolina		7,500	2,950	4,800	20,500	
Georgia	3,000	12,400	4,700	3,500	3,166	
Ohio	90,950	87,840	64,720	249,391	178,247	150,140
Indiana	341,217	282,717	347,969	912,856	435,557	447,283
Illinois	68,324	42,209	64,409	159,360	101,539	82,965
Michigan	73,506	39,602	30,502	59,100	59,238	20,050
Wisconsin			3,250		2,900	9,736
Iowa	94,800	57,500	82,719	86,373	91,641	61,477
Missouri	90,350	64,621	122,493	186,210	155,900	110,729
Nebraska	26,900	2,210	16,900	32,950	13,710	8,070
Kansas	50,700	30,833	76,815	85,050	33,700	32,650
Kentucky	10,000	2,200	6,500	30,893	13,700	10,800
Alabama		1,170	2,200	4,350	2,850	
Mississippi			2,300	5,500		
Texas	4,500	100	7,521	7,816	9,600	
Oklahoma			2,500	2,500		
Arkansas	14,500	2,500	14,000	20,300	9,100	4,000
Colorado	12,600	39,252	49,500	79,110	21,000	55,500
Utah		55,000	29,000	46,900		
California	218,311	230,942	451,547	222,913	233,259	183,317
All other						2,526
United States	3,315,885	3,223,135	4,298,443	6,426,669	4,034,670	3,423,900

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

[1] Stated in cases of 24 No. 3 cans. [2] Includes West Virginia.

TABLE 268.—*Tomatoes, canned: Production in the United States, calendar years, 1891–1923*—Continued.

State.	1897	1898	1899	1900	1901	1902
	Cases.[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]
Connecticut		9,720	20,120	16,425	15,660	13,000
New York	93,610	162,354	158,206	201,371	140,043	107,423
New Jersey	519,813	810,219	871,349	815,102	411,150	739,845
Pennsylvania	16,900	42,216	76,010	48,540	3,791	81,891
Delaware	305,769	450,409	545,551	381,124	212,723	750,670
Maryland	1,381,989	1,918,872	2,859,914	1,691,045	1,768,269	4,514,382
Virginia [2]	119,517	135,293	298,270	177,836	104,813	414,360
Ohio	152,800	210,755	248,519	233,697	103,847	314,660
Indiana	587,579	1,020,415	827,413	639,536	420,082	992,080
Illinois	65,000	75,561	144,115	102,481	25,600	52,530
Michigan	21,384	41,585	53,316	40,150	34,475	17,667
Wisconsin	2,750	31,268	53,580	58,300	33,312	6,000
Iowa	119,505	134,250	85,884	98,500	18,180	51,657
Missouri	180,874	146,844	168,211	133,000	13,400	98,682
Nebraska	9,800	21,600	16,174	13,550	1,400	3,352
Kansas	33,988	16,805	25,075	20,010	2,500	20,000
Kentucky	28,660	27,600	32,220	26,125	16,500	62,240
Arkansas	9,700					
Colorado	67,125	45,142	38,550	30,500	47,900	5,000
Utah	34,300	18,000	125,000	205,351	150,000	248,650
California	208,612	299,408	508,310	555,536	696,288	737,400
All other	9,360	35,903	18,206	22,905	14,788	29,089
United States	3,963,975	5,654,200	7,173,993	5,498,043	4,234,061	9,261,722

State.	1903	1904	1905	1906	1907	1908
Connecticut	6,000					
New York	185,581	169,521	187,171	274,798	217,695	369,000
New Jersey	592,670	815,823	416,053	545,628	914,844	651,000
Pennsylvania	67,922	90,638	36,360	84,169	106,888	[3]
Delaware	899,964	646,110	404,155	728,365	1,368,866	940,000
Maryland	4,687,224	3,338,310	2,294,408	3,209,953	5,294,253	4,710,000
Virginia [2]	941,614	486,260	161,994	102,537	1,070,409	607,000
Ohio	268,336	278,438	184,353	276,243	410,876	406,000
Indiana	989,081	1,166,664	799,404	1,469,167	1,172,095	1,126,000
Illinois	42,519	34,700	52,147	67,860	51,239	[3]
Michigan	13,319	15,415	7,825	17,100	50,000	[3]
Wisconsin	49,912					
Iowa	27,978	83,145	64,625	155,770	60,121	[3]
Missouri	38,033	115,950	83,743	255,419	225,325	546,000
Nebraska	3,611	6,907	9,542	4,438	5,600	[3]
Kansas	15,123	3,400	21,399	23,938	22,628	[3]
Kentucky	61,299	42,500	80,900	76,733	76,905	[3]
Colorado		73,000	49,176	100,075	60,107	[3]
Utah	359,336	373,068	51,975	332,267	424,806	[3]
California	884,243	730,311	649,685	838,792	1,227,364	[3]
All other	21,156	46,966	20,395	67,776	158,185	2,118,000
United States	10,154,912	8,517,126	5,575,316	8,631,138	12,918,206	11,479,000

State.	1909	1910	1911	1912	1913	1914
New York	298,000	118,000	193,000	460,000	487,000	601,000
New Jersey	944,000	519,000	570,000	799,000	883,000	728,000
Delaware	1,236,000	992,000	931,000	1,398,000	1,640,000	1,335,000
Maryland	4,609,000	3,675,000	3,908,000	6,350,000	6,280,000	5,850,000
Virginia [2]	985,000	630,000	681,000	882,000	945,000	867,000
Ohio	339,000	209,000	293,000	263,000	326,000	523,000
Indiana	852,000	537,000	806,000	792,000	948,000	1,295,000
Missouri	244,000	350,000	120,000	435,000	128,000	376,000
All other	1,477,000	2,205,000	2,247,000	2,593,000	2,563,000	3,647,000
United States	10,984,000	9,235,000	9,749,000	14,022,000	14,206,000	15,222,000

[1] Stated in cases of 24 No. 3 cans. [2] Includes West Virginia. [3] Included in "All other."

TABLE 268.—*Tomatoes, canned: Production in the United States, calendar years, 1891–1923*—Continued.

State.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Cases.[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]	*Cases.*[1]
New York	256,000	174,000	552,830	395,904	436,509	515,000	214,000	340,000	266,000
New Jersey	325,000	712,000	380,116	667,063	59,678	517,000	116,000	337,000	412,000
Delaware	711,000	1,199,000	1,380,805	879,070	188,920	553,000	176,000	590,000	1,216,000
Maryland	3,084,000	6,042,000	5,933,239	6,649,475	2,528,927	3,347,000	1,656,000	3,205,000	5,722,000
Virginia [2]	969,000	928,000	1,170,504	1,547,291	852,991	1,162,000	217,000	891,000	963,000
Ohio	157,000	186,000	107,491	357,283	172,367	142,000	71,000	179,000	174,000
Indiana	419,000	760,000	398,327	968,219	875,598	778,000	530,000	1,312,000	717,000
Missouri	252,000	211,000	704,347	352,821	438,720	715,000	136,000	775,000	839,000
Utah	329,000	373,000	512,546	952,539	594,066	444,000	132,000	664,000	584,000
California	1,281,000	1,635,000	2,603,019	1,789,904	3,051,088	1,773,000	339,000	1,701,000	2,397,000
All other	686,000	922,000	1,332,850	1,322,803	1,510,106	1,422,000	430,000	1,544,000	1,382,000
U. S.	8,469,000	13,142,000	15,076,074	15,852,372	10,709,660	11,368,000	4,017,000	11,538,000	14,672,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data

[1] Stated in cases of 24 No. 3 cans. [2] Includes West Virginia.

TURNIPS.

TABLE 269.—*Turnips: Farm price, per bushel, 15th of month, United States, 1914–1923.*

Month.	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
November	47.4	45.9	68.4	76.4	79.6	98.9	94.1	88.5	83.1	87.8
December	48.4	45.1	73.3	81.1	79.0	101.8	85.9	86.5	81.9	92.2
January	49.2	48.6	78.6	88.4	82.1	112.4	88.7	87.5	91.9	
February	51.1	49.6	91.1	89.9	84.7	124.1	88.7	90.3	91.3	

Division of Crop and Livestock Estimates.

WATERMELONS.

TABLE 270.—*Watermelons: Carlot shipments, by States of origin, calendar years, 1917–1923.*

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
Delaware	511	303	327	177	499	289	246
Maryland	1,019	388	515	458	763	379	580
Virginia	728	244	263	312	364	156	159
North Carolina	1,201	727	891	799	1,530	987	1,506
South Carolina	4,107	2,787	2,673	4,735	4,427	4,677	4,678
Georgia	9,530	6,782	8,984	11,103	16,140	12,973	7,572
Florida	3,622	2,179	3,878	6,807	5,772	11,337	4,217
Indiana	630	191	581	661	742	542	498
Illinois	386	68	190	251	459	289	433
Iowa	238	132	321	348	867	665	506
Missouri	2,533	1,196	3,516	3,012	3,188	2,752	1,707
Alabama	1,634	806	708	1,160	1,486	1,941	1,249
Texas	2,871	2,290	3,007	4,845	4,298	4,131	5,282
Oklahoma	505	189	370	465	566	308	64
Arkansas	449	93	268	314	577	325	165
California	1,137	1,689	3,300	3,276	3,796	4,289	4,028
All other	402	328	568	532	989	1,026	751
Total	31,503	20,392	30,860	39,255	46,463	47,066	33,041

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TRUCK CROPS.

TABLE 271.—*Truck crops: Commercial acreage and production, United States, 1919–1923.*

ACREAGE.

Crop.	Number of States producing.	1919	1920	1921	1922	1923[1]
		Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Asparagus	12	28, 200	31, 440	33, 230	33, 970	43, 520
Beans (snap)	30	38, 560	34, 550	34, 370	50, 080	55, 390
Cabbage	28	92, 020	119, 210	100, 430	131, 780	98, 200
Cantaloupes	23	72, 950	74, 530	77, 840	103, 040	82, 040
Cauliflower	3	8, 640	8, 200	8, 940	9, 220	10, 520
Celery	9	13, 760	15, 790	14, 880	18, 090	18, 910
Corn (sweet)	20	250, 030	261, 580	136, 270	198, 960	250, 160
Cucumbers	29	64, 810	66, 450	80, 360	81, 780	100, 980
Lettuce	14	18, 360	31, 930	31, 240	44, 230	56, 630
Onions	22	52, 520	64, 940	57, 070	63, 290	61, 100
Peas (green)	23	135, 430	149, 340	138, 380	177, 710	207, 590
Potatoes (early Irish)	19	225, 450	262, 750	267, 540	306, 090	279, 770
Strawberries	27	86, 910	93, 410	109, 590	132, 800	147, 710
Tomatoes	33	376, 260	333, 560	160, 300	343, 420	406, 990
Watermelons	22	122, 310	149, 610	155, 980	211, 060	155, 730

PRODUCTION.

	1919	1920	1921	1922	1923[1]
Asparagus—crates	3, 669, 000	3, 842, 000	3, 678, 000	4, 541, 000	6, 707, 000
Beans (snap)—tons	76, 500	64, 200	65, 400	81, 000	97, 500
Cabbage—do	613, 800	1, 062, 300	654, 000	1, 062, 800	740, 000
Cantaloupes—crates	10, 188, 000	10, 508, 000	10, 730, 000	12, 942, 000	11, 197, 000
Cauliflower—do	2, 245, 000	2, 190, 000	2, 409, 000	2, 578, 000	3, 024, 000
Celery—do	2, 732, 000	3, 435, 000	3, 446, 000	4, 017, 000	4, 309, 000
Corn (sweet)—tons	587, 400	594, 900	360, 600	478, 200	588, 700
Cucumbers—bushels	6, 629, 000	5, 385, 000	8, 224, 000	8, 804, 000	7, 972, 000
Lettuce—crates	5, 517, 000	9, 425, 000	11, 056, 000	11, 176, 000	13, 270, 000
Onions—bushels	14, 548, 000	21, 343, 000	14, 165, 000	18, 763, 000	16, 318, 000
Peas (green)—tons	124, 700	169, 300	131, 100	188, 000	179, 300
Potatoes (early Irish)—bushels	24, 667, 000	30, 056, 000	30, 557, 000	35, 607, 000	26, 697, 000
Strawberries—quarts	155, 800, 000	155, 588, 000	189, 677, 000	260, 391, 000	254, 691, 000
Tomatoes—tons	1, 436, 000	1, 532, 800	736, 000	1, 664, 600	1, 708, 900
Watermelons—number	41, 354, 000	57. 521, 000	61, 122, 000	71, 148, 000	42, 477, 000

Division of Crop and Livestock Estimates. [1] Preliminary.

VEGETABLE SEED.

TABLE 272.—*Vegetable seed: Commercial acreage, average yield per acre, and production, United States, 1917–1923.*

COMMERCIAL ACREAGE PLANTED FOR SEED.

Kind of seed.	1917	1918	1919	1920	1921	1922	1923[1]
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Beans, dwarf, snap	63, 524	70, 867	48, 658	30, 059	12, 625	33, 488	42, 123
Beans, garden, pole [2]	4, 029	6, 297	7, 957	11, 573	3, 911	4, 430	5, 284
Beet, garden	826	2, 748	2, 666	400	380	633	699
Beet, mangel	20	424	619	123	(3)	112	
Beet, sugar	4, 638	6, 014	11, 139	7, 919	3, 699	1, 129	
Cabbage	737	974	1, 978	1, 135	636	730	1, 167
Carrot	1, 965	4, 622	3, 465	538	196	493	750
Celery	84	176	135	60	100	70	115
Corn, sweet	12, 975	14, 759	14. 565	12, 024	4, 064	7, 405.	8, 690
Cucumber	4, 604	3, 053	3, 582	3, 598	3, 577	4, 180	5, 037
Kale	18	71	106	61	39	132	108
Lettuce	1, 979	2, 291	2, 283	2, 010	1, 185	1, 929	2, 200
Muskmelon	1, 827	1, 671	1, 467	1, 898	2, 223	1, 935	2, 720
Watermelon	8, 929	10, 507	5, 508	5, 914	6, 558	9, 480	8, 450
Onion, seed	3, 782	7, 260	6, 730	2, 392	1, 108	1, 295	2, 138
Onion, sets	2, 637	3, 818	3, 708	3, 998	3, 225	3, 183	2, 753
Parsley	109	155	146	186	90	84	80
Parsnips	137	267	303	111	48	121	147
Peas, garden	110, 129	102, 095	104, 172	113, 844	35, 680	54, 462	80, 659
Pepper	686	720	160	431	1, 308	671	503
Pumpkin	1, 512	1, 380	1, 156	2, 164	905	992	3 9
Radish	3, 521	8, 760	10, 870	3, 396	1, 717	2, 485	3, 400
Salsify	131	124	205	52	9	33	
Spinach	1, 415	4, 259	1, 139	141	32	655	231
Squash, summer	836	1, 004	1, 153	1, 000	1, 128	612	664
Squash, winter	1, 328	2, 539	2, 912	2, 109	1, 310	836	1, 525
Tomato	3, 204	3, 832	3, 604	2, 711	1, 296	3, 824	2, 592
Turnip, English	24	936	1, 207	239	336	200	
Turnip, Swede	21	279	205	136	(3)	90	75

TABLE 272.—*Vegetable seed: Commercial acreage, average yield per acre, and production, United States, 1917–1923*—Continued.

AVERAGE YIELD PER ACRE.

Kind of seed.	1917	1918	1919	1920	1921	1922	1923 [1]
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Beans, dwarf, snap	233	412	516	501	712	585	673
Beans, garden, pole [2]	315	820	552	474	660	920	816
Beet, garden	562	913	697	295	474	678	934
Beet, mangel	1,500	677	1,003	561	[3]	911	----------
Beet, sugar	1,094	981	601	855	966	935	----------
Cabbage	396	166	699	138	352	504	384
Carrot	575	460	451	541	388	371	287
Celery	333	227	400	467	460	471	365
Corn, sweet	640	807	902	1,070	1,029	1,181	1,016
Cucumber	219	179	214	161	136	169	260
Kale	278	239	406	180	769	341	398
Lettuce	456	326	298	292	262	444	173
Muskmelon	160	117	102	89	178	186	184
Watermelon	71	91	91	104	112	127	84
Onion, seed	259	232	389	335	301	347	437
Onion, sets	11,850	12,066	5,906	11,106	8,304	9,802	8,427
Parsley	771	471	767	629	311	524	312
Parsnips	496	625	733	622	542	702	497
Peas, garden	444	569	460	767	762	855	765
Pepper	31	78	75	63	78	70	54
Pumpkin	71	96	95	114	117	120	135
Radish	176	221	233	181	150	299	176
Salsify	427	250	454	308	333	455	----------
Spinach	212	387	317	716	781	479	842
Squash, summer	145	99	193	131	166	185	175
Squash, winter	70	50	152	121	110	79	119
Tomato	71	80	67	80	62	62	58
Turnip, English	125	215	378	142	176	75	----------
Turnip, Swede	429	97	600	287	[3]	511	307

[1] Preliminary. [2] Not including Lima beans. [3] Not reported for 1921.

PRODUCTION.

	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Beans, dwarf, snap	14,809	29,216	25,093	15,069	8,985	19,600	28,333
Beans, garden, pole [2]	1,268	5,166	4,395	5,480	2,582	4,074	4,310
Beet, garden	464	2,509	1,858	118	180	420	653
Beet, mangel	30	287	621	60	[3]	102	----------
Beet, sugar	5,076	5,900	6,700	6,770	3,575	1,056	----------
Cabbage	292	162	1,383	157	224	368	448
Carrot	1,129	2,125	1,562	291	76	183	215
Celery	28	40	54	28	46	33	42
Corn, sweet	8,303	11,917	13,143	12,870	4,183	8,749	8,825
Cucumber	1,026	548	766	580	487	707	1,312
Kale	5	17	43	11	30	45	43
Lettuce	903	747	680	587	310	856	380
Muskmelon	293	196	150	160	395	359	501
Watermelon	633	960	500	614	732	1,200	711
Onion, seed	980	1,685	2,618	801	334	450	935
Onion, sets	31,249	46,069	21,900	44,402	26,780	31,200	23,200
Parsley	84	73	112	117	28	44	25
Parsnips	68	167	222	69	26	85	73
Peas, garden	48,868	58,127	47,968	87,310	27,197	46,588	66,300
Pepper	21	56	12	27	99	47	27
Pumpkin	108	133	110	247	106	119	47
Radish	621	1,935	2,537	614	258	743	600
Salsify	56	31	93	16	3	15	----------
Spinach	300	1,650	361	101	25	314	197
Squash, summer	121	99	223	131	187	114	116
Squash, winter	93	128	443	255	144	66	182
Tomato	227	308	243	218	81	238	150
Turnip, English	3	201	456	34	59	15	----------
Turnip, Swede	9	27	123	39	[3]	46	23

Division of Statistical and Historical Research. Compiled from data of Hay, Feed, and Seed Division.

[1] Preliminary. [2] Not including Lima beans. [3] Not reported for 1921.

TABLE 273.—*Vegetable seed: Imports into United States, 1910 to 1922.*

Kind of seed.	Fiscal year ending June 30—									Calendar year.			
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Beet, sugar	10,309	11,109	11,390	14,783	10,490	15,893	9,048	14,466	15,637	9,830	23,446	7,726	.....
Beet, all other	624	689	872	887	1,077	991	786	483	448	161	238	257	273
Cabbage	162	261	311	273	255	425	278	108	83	169	391	253	181
Carrot	176	155	97	149	172	87	38	15	33	16	69	48	87
Castor bean [1]	37,240	39,512	48,913	41,229	52,106	46,230	53,598	38,353	52,201	60,413	61,961	36,565	.....
Cauliflower	6	10	7	9	11	13	9	8	8	12	17	12	13
Celery [1]	189	341	39	23	406	640	606	756	168	768	594	426	604
Collard	1	1	(2)	2	(2)	9	(2)	(2)	(2)	1	(2)	(2)	.....
Corn salad	7	10	8	6	6	5	5	4	2	8	14	3	.....
Eggplant	3	1	2	2	1	1	2	1	2	1	1	1	.....
Kale	17	25	39	32	38	49	40	16	8	19	77	40	25
Kohl-rabi	50	17	11	14	16	16	10	9	17	17	23	14	10
Mushroom spawn	368	423	168	240	195	124	66	48	17	23	19	23	.....
Mustard [1]	9,124	8,512	12,108	12,720	11,544	10,158	16,402	9,962	13,036	14,227	9,063	7,564	.....
Parsley	75	75	50	129	255	139	70	38	66	53	180	151	144
Parsnips	89	57	55	117	130	100	100	65	7	44	17	57	40
Pepper	16	16	18	10	12	15	15	5	22	6	2	9	4
Radish	470	581	373	504	527	550	309	119	103	112	320	213	272
Spinach	935	972	1,218	1,698	1,386	1,136	838	634	805	367	1,139	1,222	1,927
Turnips and rutabaga	1,234	1,759	2,868	1,233	1,581	2,112	1,816	1,066	2,151	1,810	1,847	2,242	1,360

Hay, Feed and Seed Division.

[1] Imported for planting and for other purposes. [2] Less than 500 pounds.

TABLE 274.—*Average wholesale prices per pound of standard varieties of vegetable seeds in United States, 1917–1923.*

Kind of seed.	1917	1918	1919	1920	1921	1922	1923
Beans, dwarf snap	$0.18	$0.26	$0.21	$0.16	$0.15	$0.13	$0.15
Beans, garden, pole [1]	.14	.24	.23	.21	.19	.15	.15
Beet, garden	.90	1.45	1.07	.64	.48	.38	.52
Beet, mangel	.35	.90	.68	.36	.31	.27	.29
Cabbage	1.90	3.80	8.00	2.75	2.40	2.00	1.90
Carrot	1.00	1.75	.90	.50	.50	.40	.56
Celery, domestic	1.50	2.25	1.85	1.60	2.00	1.60	1.60
Celery, imported	10.00	10.00	5.00	4.00	4.00	3.00	3.00
Cucumber	.54	.83	.85	.86	.80	.81	.69
Lettuce	.65	.85	.90	.72	.76	.76	.74
Muskmelon	.54	.78	.81	.73	.79	.76	.77
Watermelon	.42	.70	.54	.46	.45	.46	.44
Onion seed	1.90	4.50	2.65	1.80	1.60	1.20	1.50
Parsley	.35	.60	1.00	.60	.60	.50	.50
Parsnip	.30	.....	1.00	.40	.35	.35	1.00
Peas, garden	.12	.19	.19	.24	.19	.14	.13
Radish	.40	1.60	1.30	.60	.50	.50	.45
Spinach	.60	2.00	.75	.35	.20	.20	.21
Squash, summer	.65	.80	1.05	1.00	.90	.75	.67
Squash, winter	.55	1.00	1.10	1.10	1.00	.80	.67
Sweet corn	.20	.25	.17	.15	.13	.10	.11
Tomato	2.75	3.60	4.00	3.25	3.10	2.80	2.70
Turnip, English	.35	1.75	1.35	.65	.50	.35	.46
Turnip, Swede	.32	1.50	1.25	.45	.37	.27	.40

Division of Statistical and Historical Research. Compiled from reports of Hay, Feed, and Seed Division.

[1] Not including Lima beans.

TABLE 275.—*Vegetable seed: Average yearly import price, per pound, 1910–1922.*[1]

Kind of seed.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Beet, garden	9.4	10.3	16.4	15.7	15.0	11.0	12.0	17.2	49.2	67.2	21.1	14.2	18.0
Beet, sugar	6.5	6.6	9.7	7.2	7.6	8.8	11.2	11.6	.....	.....	22.2	19.6	.....
Cabbage	22.9	34.1	37.6	47.6	49.0	35.0	42.2	44.4	170.8	211.8	76.6	57.0	61.0
Carrot	15.2	17.0	36.3	25.1	30.6	25.0	34.0	45.4	86.1	120.4	22.6	27.0	31.3
Cauliflower	534.0	400.0	562.0	537.0	381.0	343.0	524.0	606.0	458.7	382.3	820.9	813.4	688.2
Celery [2]	9.4	9.3	25.1	87.2	21.4	18.3	26.6	18.8	38.0	40.0	19.6	14.3	21.0
Collard	19.6	12.4	14.3	13.1	17.0	13.4	24.0	77.0	.....	.....	26.0	23.1	.....
Corn salad	15.6	12.7	20.7	14.6	12.6	13.5	15.0	16.8	38.1	49.1	44.9	47.3	.....
Eggplant	78.6	71.9	61.1	80.8	80.6	80.5	86.2	68.7	157.1	219.7	187.6	143.5	.....
Kale	22.9	15.5	14.8	19.3	25.8	20.9	17.3	27.1	75.3	63.9	26.7	26.7	29.2
Kohl-rabi	11.0	18.9	28.0	28.0	35.2	28.0	28.4	40.6	78.1	98.5	52.8	46.7	54.0
Parsley	8.5	9.0	19.2	28.1	18.6	11.0	12.2	14.4	19.7	39.3	11.9	12.5	12.7
Parsnip	7.2	7.6	10.4	8.6	8.2	7.0	8.1	8.4	49.2	60.4	21.9	13.2	27.0
Pepper	42.3	41.4	40.9	44.0	38.2	41.0	41.0	57.0	88.4	151.9	109.5	68.3	105.3
Radish	11.6	12.3	13.0	13.4	14.5	12.4	13.2	17.8	67.6	57.5	24.0	21.8	20.0
Spinach	46.0	5.0	5.7	5.2	4.6	4.8	8.0	12.6	33.2	21.9	11.6	9.7	9.2
Turnip and rutabaga	8.5	8.6	7.9	9.3	9.1	8.7	8.9	11.8	31.5	36.9	22.8	14.6	16.8

Hay, Feed, and Seed Division.

[1] Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.
[2] Imported for planting and other purposes.

TABLE 276.—*Vegetable seed: Retail catalogue prices, calendar years, 1917–1923.*

Kind of seed.	1917		1918		1919		1920		1921		1922		1923	
	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.
Beans, dwarf snap	.....	$0.32	.....	$0.43	.....	$0.41	.....	$0.39	.....	$0.39	.....	$0.37	.....	$0.36
Beans, garden pole [1]	.....	.26	.....	.41	.....	.43	.....	.40	.....	.41	.....	.39	.....	.37
Beets, garden	$0.15	1.30	$0.20	2.35	$0.20	1.75	$0.15	1.35	$0.15	1.15	$0.14	1.00	$0.14	1.05
Beet, mangel	.10	.55	.15	1.30	.15	1.20	.10	.90	.10	.80	.10	.70	.10	.70
Cabbage	.25	3.00	.45	5.05	.90	11.10	.50	5.25	.35	3.90	.30	3.15	.29	3.05
Carrot	.15	1.40	.20	2.25	.20	1.70	.15	1.30	.15	1.10	.13	1.00	.13	1.05
Celery, domestic	.25	2.60	.30	2.85	.35	2.90	.30	3.20	.30	3.00	.27	2.75	.29	3.00
Celery, imported	1.45	17.00	1.40	15.35	1.30	13.55	.95	10.45	.85	9.85	.85	9.05	1.05	11.20
Cucumber	.10	.95	.15	1.75	.15	1.30	.15	1.30	.15	1.40	.15	1.35	.15	1.30
Lettuce	.15	1.35	.15	1.40	.15	1.50	.15	1.55	.20	1.60	.17	1.55	.17	1.60
Muskmelon	.15	1.10	.15	1.30	.15	1.35	.15	1.50	.15	1.50	.17	1.50	.16	1.45
Watermelon	.10	.80	.10	.95	.15	1.15	.15	1.10	.15	1.15	.14	1.05	.14	1.00
Onion seed	.25	2.50	.55	5.15	.35	3.80	.30	3.15	.30	3.00	.26	2.55	.25	2.55
Parsley	.10	.90	.15	1.05	.15	1.25	.15	1.10	.15	1.10	.14	1.10	.14	1.10
Parsnip	.10	.70	.20	1.75	.20	1.80	.15	1.25	.15	1.05	.14	1.00	.17	1.60
Peas, garden	.....	.23	.....	.37	.....	.38	.....	.45	.....	.42	.....	.37	.....	.37
Radish	.10	.65	.15	1.65	.15	1.65	.15	1.30	.15	1.15	.14	1.10	.14	1.10
Spinach	.10	.90	.20	2.10	.15	1.25	.10	.80	.10	.70	.10	.60	.11	.60
Squash, summer	.10	.95	.15	1.40	.15	1.50	.15	1.65	.20	1.65	.17	1.50	.16	1.40
Squash, winter	.10	.95	.15	1.50	.15	1.60	.20	1.70	.20	1.60	.17	1.40	.16	1.35
Sweet corn	.....	.26	.....	.38	.....	.35	.....	.36	.....	.36	.....	.32	.....	.31
Tomato	.30	2.95	.40	4.10	.40	4.00	.40	4.45	.40	4.25	.37	3.90	.36	3.90
Turnip, English	.10	.70	.20	1.95	.20	2.05	.15	1.40	.15	1.15	.13	.95	.13	.95
Turnip, Swede	.10	.65	.20	2.35	.20	2.05	.15	1.35	.15	1.00	.13	.90	.12	.85

Hay, Feed, and Seed Division. Average of prices quoted for standard varieties of vegetable seed by a number of representative mail-order dealers.

[1] Not including Lima beans.

TABLE 277.—*Fruits and vegetables: Carlot shipments of 15 commodities, United States, 1917–1923.*

Commodity, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Apples:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917	2,380	2,153	2,175	1,239	965	301	755	1,308	5,719	21,895	14,165	3,993	57,048
1918	2,362	3,232	2,882	1,647	347	229	1,149	2,359	8,070	26,680	13,563	6,320	68,840
1919	4,044	3,679	2,063	1,006	430	189	1,349	2,712	12,259	32,668	15,854	5,301	81,552
1920	4,393	4,419	4,378	2,229	1,276	262	1,855	3,861	11,043	37,284	23,087	8,875	102,962
1921	6,046	6,698	5,695	2,819	1,496	422	1,220	3,384	13,146	35,117	14,404	5,991	96,498
1922	4,199	4,756	2,903	1,763	1,117	1,117	2,592	4,924	14,969	34,007	20,617	8,816	101,780
1923	8,573	6,611	5,502	2,807	1,617	507	3,324	3,908	14,818	44,477	25,187	7,746	125,077
Beans, dry:													
1918	22	37	77	122	343	166	186	201	264	954	870	902	4,144
1919	699	406	602	715	754	474	338	611	375	1,019	1,040	758	7,791
1920	661	421	442	441	812	466	331	305	271	845	1,136	864	6,995
1921	1,239	1,236	967	690	675	612	492	749	1,187	2,461	1,532	874	12,714
1922	1,168	1,124	921	479	492	393	232	163	797	1,986	2,167	1,544	11,466
1923	1,251	724	680	580	486	558	407	453	610	2,353	2,478	1,605	12,185
Cabbage:													
1917	1,286	463	503	457	1,634	2,121	753	1,015	2,505	6,078	2,501	1,038	20,354
1918	1,498	1,735	1,790	3,379	3,734	1,604	645	1,305	3,261	5,051	3,298	1,371	28,661
1919	2,182	2,017	1,977	1,831	2,469	1,438	557	1,152	2,465	5,137	2,411	1,346	24,982
1920	1,931	2,518	3,328	3,935	2,941	1,508	612	1,095	1,791	5,399	4,607	1,355	31,020
1921	2,852	2,293	2,929	4,100	3,196	1,727	459	1,303	2,818	5,467	2,500	1,934	31,718
1922	3,344	3,422	4,185	3,831	4,006	2,252	660	1,436	3,523	7,060	3,817	2,529	40,065
1923	2,985	2,299	2,630	3,779	4,130	2,243	817	1,599	3,023	6,373	3,920	2,270	36,068
Cantaloupes:													
1917	.....	.....	.....	.....	.....	3,468	5,882	5,564	2,184	306	23	3	17,430
1918	.....	.....	.....	.....	51	4,348	3,949	3,922	1,339	10	.....	.....	13,619
1919	.....	.....	.....	.....	66	6,902	7,144	4,755	2,834	338	.....	.....	22,039
1920	.....	.....	.....	.....	475	6,781	5,318	6,867	2,784	152	.....	.....	22,377
1921	.....	.....	.....	.....	638	7,974	8,635	5,986	2,153	171	12	.....	25,569
1922	.....	.....	.....	.....	4	135	10,871	10,173	5,334	3,294	903	3	29,017
1923	.....	.....	.....	.....	.....	917	10,190	6,107	5,334	2,671	538	34	25,791
Celery:													
1919	616	546	722	412	507	32	44	141	258	875	1,210	1,086	6,449
1920	816	1,047	1,206	708	320	21	69	150	421	1,256	1,811	1,483	9,308
1921	1,675	1,748	1,754	866	255	105	137	262	516	1,815	1,443	1,909	12,483
1922	1,423	1,392	1,749	1,204	466	93	201	369	829	2,107	2,040	2,278	14,151
1923	1,999	1,894	2,510	1,681	393	87	218	359	603	1,970	2,352	2,521	16,587
Grapes:													
1919	.....	.....	.....	.....	.....	4	460	2,837	13,023	11,592	2,423	10	30,349
1920	.....	.....	.....	.....	.....	12	366	4,647	12,001	19,358	2,808	13	39,205
1921	1	.....	.....	.....	.....	12	425	3,376	16,743	14,671	1,908	6	37,202
1922	2	.....	.....	.....	.....	1	324	4,723	22,420	25,797	6,360	225	59,858
1923	7	.....	.....	.....	.....	33	600	5,683	22,042	26,523	7,574	755	63,217
Lettuce:													
1919	767	717	829	1,090	831	181	395	695	653	358	565	937	8,018
1920	2,025	1,622	1,353	1,063	1,172	365	980	934	832	596	1,388	1,491	13,821
1921	2,350	1,984	2,219	1,974	1,067	670	1,399	1,140	1,302	1,253	1,481	1,771	18,616
1922	2,345	1,919	2,584	3,181	1,855	801	1,536	1,787	1,303	1,503	1,444	2,082	22,240
1923	3,110	2,741	4,071	2,515	2,015	1,808	2,230	2,454	1,781	2,013	2,219	2,814	29,286
Onions:													
1917	986	355	232	2,679	2,960	1,156	678	1,434	2,740	4,068	1,348	516	19,152
1918	901	1,062	1,023	1,709	2,290	1,141	1,177	1,921	3,075	4,211	2,410	1,017	22,027
1919	1,488	1,213	949	1,189	2,462	646	1,844	1,909	3,522	2,963	1,702	987	20,874
1920	1,368	1,150	999	1,938	4,242	607	1,030	1,918	3,675	4,910	2,918	1,186	25,950
1921	2,038	1,709	1,724	2,511	2,559	822	1,482	2,048	3,362	2,608	1,248	1,148	23,319
1922	1,724	1,011	719	3,085	2,301	937	1,695	2,497	4,603	5,129	2,185	1,677	27,563
1923	2,110	1,484	1,569	1,370	2,541	766	1,459	2,233	3,800	4,759	2,622	1,683	26,396
Peaches:													
1917	.....	.....	.....	.....	41	1,294	5,149	5,743	11,031	3,968	11	.....	27,237
1918	.....	.....	.....	.....	1,119	4,021	6,336	5,185	3,625	123	.....	.....	20,409
1919	.....	.....	.....	.....	328	3,513	9,216	11,277	6,485	104	.....	.....	30,923
1920	.....	.....	.....	.....	45	1,588	6,881	6,294	10,528	1,038	3	.....	26,967
1921	.....	.....	.....	.....	1,429	4,012	9,367	7,324	5,116	32	.....	.....	27,300
1922	.....	.....	.....	.....	695	3,184	7,540	11,886	13,778	1,208	.....	.....	38,291
1923	.....	.....	.....	.....	1	2,384	10,855	9,751	9,406	757	.....	.....	33,154

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 277.—*Fruits and vegetables: Carlot shipments of 15 commodities, United States, 1917–1923*—Continued.

Commodity, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Pears:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1919	11	1	------	------	------	------	1,954	3,820	2,753	1,389	190	40	10,158
1920	------	------	8	3	------	23	2,417	3,079	4,859	3,624	779	157	14,950
1921	49	29	30	------	------	1	1,511	5,562	3,972	1,390	285	82	12,821
1922	9	2	2	------	------	1	1,559	6,955	6,613	4,169	625	112	20,138
1923	121	40	37	7	1	109	3,527	5,233	4,900	2,907	419	118	17,419
Potatoes:													
1917	10,331	6,418	6,683	8,471	9,746	14,719	15,488	12,910	14,392	23,542	13,536	7,120	144,656
1918	9,489	10,943	12,558	11,528	12,720	16,989	14,156	11,805	19,841	24,902	15,442	8,891	169,264
1919	12,753	8,998	13,744	13,429	9,883	13,303	13,955	13,696	22,287	32,535	17,362	9,532	181,277
1920	12,883	8,725	12,772	8,445	6,960	14,777	15,022	13,592	18,155	31,522	25,075	9,755	178,283
1921	14,106	11,970	16,154	14,893	14,987	17,645	17,041	16,115	26,040	43,250	16,720	10,496	219,426
1922	16,795	13,718	22,880	20,047	26,214	22,080	18,829	18,252	24,420	35,188	21,051	12,437	245,221
1923	17,255	14,605	24,450	23,186	16,277	20,402	16,343	16,695	23,185	33,435	19,400	11,421	236,654
Strawberries:													
1917	------	------	97	1,383	6,506	6,439	640	------	------	------	------	------	15,065
1918	------	11	355	1,122	5,321	1,417	177	31	18	------	------	------	8,452
1919	------	------	49	911	4,598	2,265	147	101	34	------	------	------	8,105
1920	------	------	44	887	3,511	3,473	403	112	58	2	------	------	8,490
1921	10	40	675	2,128	6,016	1,763	29	11	13	9	1	------	10,695
1922	17	105	245	2,401	12,940	2,925	79	------	4	------	------	------	18,716
1923	125	441	493	1,576	10,572	4,451	238	------	------	------	------	------	17,896
Sweet potatoes:													
1919	1,123	939	745	220	12	6	44	1,228	2,904	2,741	2,311	1,452	13,725
1920	1,368	959	1,150	817	460	44	92	686	2,800	3,338	2,658	1,882	16,254
1921	2,035	1,624	1,505	792	434	76	243	1,951	2,933	3,405	2,045	2,028	19,071
1922	1,674	1,503	1,868	1,058	593	284	440	1,929	3,613	3,449	2,482	2,110	20,723
1923	2,220	1,793	1,839	1,164	466	101	178	1,650	2,962	2,758	1,891	1,728	18,750
Tomatoes:													
1917	115	74	22	814	2,961	2,838	2,364	1,894	1,868	1,056	94	15	14,115
1918	------	13	487	1,448	1,568	3,028	1,967	2,124	3,171	1,361	281	23	15,471
1919	39	109	874	1,627	1,924	3,070	1,471	850	2,798	1,899	403	39	14,503
1920	268	472	1,340	468	763	3,180	2,199	1,594	3,539	1,491	216	26	15,556
1921	33	273	938	1,686	2,754	4,392	1,861	1,071	2,847	863	428	53	17,199
1922	65	544	2,615	2,794	3,980	5,958	1,958	2,712	4,342	1,343	290	67	26,608
1923	177	902	2,303	2,403	3,648	4,155	1,529	1,355	4,507	2,157	555	101	23,792
Watermelons:													
1919	------	------	------	------	209	4,986	15,011	8,856	1,677	29	2	------	30,860
1920	------	------	------	------	18	6,417	20,199	10,299	2,174	65	18	65	39,255
1921	------	------	------	7	1,086	11,240	19,837	12,256	1,958	79	------	------	46,463
1922	------	------	------	8	3,505	15,010	17,763	8,997	1,643	80	------	------	47,066
1923	------	------	------	3	762	6,021	15,603	8,529	1,971	151	1	------	33,041
Total (15 commodities):													
1917	15,098	11,463	9,112	15,043	24,813	32,336	31,709	29,808	40,339	60,913	31,678	12,685	315,057
1918	14,272	17,033	19,172	21,045	27,493	32,033	29,742	28,853	42,664	63,292	35,864	18,524	350,887
1919	23,722	18,625	22,554	21,830	24,863	37,009	53,829	54,570	74,297	93,645	45,473	21,488	491,606
1920	25,713	21,342	27,020	20,934	22,995	39,524	58,374	55,423	74,922	111,490	66,504	27,152	551,393
1921	32,440	29,662	34,580	32,460	36,582	51,473	64,158	62,648	84,166	112,491	44,190	26,202	611,094
1922	32,575	29,496	39,841	39,855	52,359	65,357	65,681	71,964	106151	123,620	63,087	33,877	723,863
1923	39,942	33,534	46,084	41,071	43,826	53,315	63,441	65,236	96,279	131,171	68,652	32,762	715,313

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 278.—*Fruits and vegetables: Unloads of nine commodities at 10 markets, in carlots, 1917–1923.*

Commodity, and calendar year.	New York.	Chicago.	Philadelphia.	Pittsburgh.	St. Louis.	Cincinnati.	St. Paul.	Minneapolis.	Kansas City.	Washington.	Total.
Apples:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917	[1] 7,996	4,335	2,343	2,498	2,117	636	284	586	988	333	[1] 22,116
1918	11,336	4,536	2,701	2,951	1,540	1,130	410	568	799	638	26,514
1919	10,601	6,069	2,864	3,216	1,379	1,450	227	348	674	387	26,215
1920	11,068	7,102	3,217	2,792	1,975	1,617	401	464	1,006	590	30,222
1921	[2] 11,984	6,634	3,416	2,808	1,856	1,810	351	422	1,002	369	[2] 30,652
1922	[2] 12,764	6,575	2,539	3,020	2,111	1,257	496	712	775	454	[2] 30,703
1923	[2] 15,538	10,364	3,211	3,005	2,736	1,659	428	681	1,507	674	[2] 39,803
Cabbage:											
1917	[1] 2,027	1,141	1,325	896	1,001	425	46	81	375	186	[1] 7,503
1918	2,880	1,322	1,936	1,670	858	577	54	57	580	371	10,305
1919	2,301	1,837	1,662	1,172	746	557	53	49	421	287	9,085
1920	2,306	1,355	1,906	1,297	864	596	74	121	399	393	9,311
1921	[2] 3,030	1,780	1,962	1,105	1,049	669	68	75	400	386	[2] 10,524
1922	[2] 3,333	1,697	2,166	1,219	1,121	781	102	104	515	468	[2] 11,506
1923	[2] 3,981	1,685	2,233	1,274	1,018	729	78	81	503	390	[2] 11,972

Footnotes on p. 789.

TABLE 278.—*Fruits and vegetables: Unloads of nine commodities at 10 markets, in carlots, 1917–1923*—Continued.

Commodity, and calendar year.	New York.	Chicago.	Philadelphia.	Pittsburgh.	St. Louis.	Cincinnati.	St. Paul.	Minneapolis.	Kansas City.	Washington.	Total.
Cantaloupes:	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
1917	3,365	793	815	1,140	285	418	85	142	360	99	7,502
1918	3,029	1,059	493	1,068	280	389	38	118	128	126	6,734
1919	3,867	1,936	1,049	1,702	305	597	92	171	448	230	10,397
1920	4,213	2,061	1,091	1,275	452	554	60	94	396	266	10,462
1921	[2] 4,781	2,308	1,258	1,322	539	640	115	166	452	242	[2] 11,823
1922	[2] 5,535	2,800	1,542	1,244	618	676	122	214	422	306	[2] 13,479
1923	[2] 4,521	2,237	1,226	1,203	512	461	76	199	309	253	[2] 10,996
Onions:											
1917	[1] 4,666	1,146	1,606	1,178	753	286	50	149	407	108	[1] 10,349
1918	4,465	695	1,542	1,208	549	276	25	75	389	220	9,444
1919	4,801	1,403	1,398	976	438	226	61	83	284	174	9,844
1920	4,072	1,237	1,554	1,115	687	283	40	107	426	226	9,747
1921	[2] 4,429	1,545	1,482	922	559	314	71	91	345	196	[2] 9,954
1922	[2] 4,933	1,673	1,698	951	672	400	65	115	453	235	[2] 11,195
1923	[2] 8,338	1,951	1,790	941	664	394	64	95	454	247	[2] 14,938
Peaches:											
1917	3,620	1,067	827	1,167	348	495	69	190	292	120	8,195
1918	3,683	1,060	892	1,010	188	415	97	83	205	138	7,771
1919	3,935	1,357	944	1,221	334	631	128	112	285	156	9,105
1920	3,506	1,267	847	849	347	481	36	64	158	263	7,818
1921	[2] 4,143	1,326	1,056	759	481	600	77	101	268	148	[2] 8,959
1922	[2] 4,617	2,107	1,016	1,071	438	609	161	192	331	294	[2] 10,836
1923	[2] 3,496	1,404	778	745	542	649	136	158	320	220	[2] 8,448
Potatoes:											
1917	[1] 20,601	9,609	6,441	5,185	2,904	1,573	410	1,196	2,546	439	[1] 50,904
1918	19,330	12,477	6,823	6,516	2,739	1,538	125	397	2,602	1,213	53,760
1919	18,378	12,158	7,668	7,326	2,756	2,047	150	498	2,521	1,000	54,502
1920	17,424	11,302	7,190	5,614	2,512	2,189	437	756	2,145	885	50,454
1921	[2] 17,086	13,077	7,460	5,396	3,592	2,857	594	845	2,257	1,153	[2] 55,217
1922	[2] 20,100	13,912	8,023	5,009	4,290	3,447	351	717	2,433	1,623	[2] 59,905
1923	[2] 21,330	14,436	8,519	4,906	3,012	2,942	263	735	2,417	1,646	[2] 60,204
Strawberries:											
1917	2,771	910	679	435	89	287	82	199	173	10	5,635
1918	1,206	876	304	271	77	255	52	119	100	18	3,278
1919	898	1,246	243	166	45	232	58	101	50	50	3,089
1920	1,202	909	291	185	85	80	49	84	68	75	3,028
1921	[2] 1,101	1,499	300	321	132	356	72	147	180	50	[2] 4,158
1922	[2] 2,193	1,719	508	497	265	474	160	351	262	48	[2] 6,537
1923	[2] 2,507	1,696	750	516	277	559	130	246	129	62	[2] 6,872
Sweet potatoes:											
1921	[2] 1,592	1,231	440	913	194	368	38	91	180	197	[2] 5,244
1922	[2] 1,625	1,315	378	962	127	461	65	141	147	183	[2] 5,404
1923	[2] 1,255	1,497	409	944	136	413	58	133	102	180	[2] 5,127
Tomatoes:											
1917	[1] 3,310	1,333	696	945	237	347	27	75	266	105	[1] 7,341
1918	3,229	1,008	698	1,016	64	191	39	64	185	115	6,609
1919	2,986	1,020	943	993	178	202	24	50	235	158	6,789
1920	3,153	1,199	826	765	220	218	15	49	214	180	6,839
1921	[2] 2,872	1,588	1,105	919	327	287	34	58	262	193	[2] 7,645
1922	[2] 3,974	1,918	1,382	1,219	444	438	75	121	330	254	[2] 10,155
1923	[2] 3,981	1,652	1,436	1,321	309	339	34	106	302	226	[2] 9,705
Total (nine commodities):											
1917	[1] 48,356	20,384	14,732	13,444	7,734	4,467	1,053	2,618	5,407	1,400	[1] 119,545
1918	49,158	23,033	15,389	15,710	6,301	4,771	840	1,481	4,898	2,834	124,415
1919	47,767	27,020	16,771	15,772	6,181	5,942	793	1,412	4,918	2,444	129,026
1920	46,934	26,432	16,922	13,892	7,142	6,018	1,112	1,739	4,812	2,878	127,881
1921	[2] 51,918	30,988	18,479	14,465	8,729	7,901	1,420	1,996	5,346	2,934	[2] 144,176
1922	[2] 59,074	33,716	19,312	15,192	10,086	8,543	1,597	2,667	5,668	3,865	[2] 159,720
1923	[2] 64,947	36,922	20,352	14,855	9,206	8,145	1,267	2,434	6,043	3,898	[2] 168,065

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Unloads as shown in carlots include those by boat reduced to carlot basis.

[1] Reports incomplete.

[2] New York received, in addition in L. C. L. receipts for 1921, 152 cars of apples, 53 of cabbage, 152 of cantaloupes, 306 of onions, 74 of peaches, 1,764 of potatoes, 822 of strawberries, 1,624 of sweet potatoes, 512 of tomatoes, and 5,467 of total fruits and vegetables; for 1922, 558 cars of apples, 65 of cabbage, 292 of cantaloupes, 465 of onions, 1,385 of peaches, 751 of potatoes, 650 of strawberries, 1,368 of sweet potatoes, 814 of tomatoes, and 6,348 of total fruits and vegetables; and for 1923, 316 cars of apples, 101 of cabbage, 280 of cantaloupes, 239 of onions, 1,182 of peaches, 689 of potatoes, 522 of strawberries, 1,301 of sweet potatoes, 1,156 of tomatoes, and 5,786 of total fruits and vegetables.

CROPS OTHER THAN GRAINS, FRUITS, AND VEGETABLES.

BEANS.

TABLE 279.—*Beans, dry: Acreage, production, and total farm value, United States, 1914–1923; by States, 1922 and 1923.*

Calendar year, and State.	Thousands of acres.	Average yield in bushels per acre.	Production, thousands of bushels.	Average farm price per bushel Nov. 15.	Farm value, thousands of dollars.
1914	875	13.2	11,585	$2.26	26,212
1915	928	11.1	10,321	2.59	26,771
1916	1,107	9.7	10,715	5.10	54,686
1917	1,821	8.8	16,045	6.50	104,350
1918	1,744	10.0	17,397	5.28	91,863
1919	1,060	12.6	13,349	4.26	56,811
1920	847	10.8	9,185	2.95	27,134
1921	777	11.8	9,150	2.67	24,399

Leading States.	Thousands of acres.		Average yield in bushels per acre.		Production, thousands of bushels.		Average farm price per bushel Nov. 15.		Farm value, thousands of dollars.	
	1922	1923[1]	1922	1923	1922	1923[1]	1922	1923	1922	1923[1]
Total	1,074	1,297	11.9	12.1	12,734	15,740	3.74	3.65	47,640	57,480
New York	108	130	14.0	13.0	1,512	1,690	3.80	3.90	5,746	6,591
Michigan	458	568	10.5	11.5	4,809	6,532	3.65	3.30	17,553	21,556
Wisconsin	8	10	9.5	9.0	76	90	3.60	4.00	274	360
Colorado	81	170	5.0	8.0	405	1,360	4.40	3.70	1,782	5,032
New Mexico	62	69	3.2	5.0	198	345	4.50	4.20	891	1,449
Arizona	7	6	3.5	6.5	24	39	4.50	3.90	108	152
Idaho	26	45	14.0	22.0	364	990	3.40	3.60	1,238	3,564
California	324	299	16.5	15.7	5,346	4,694	3.75	4.00	20,048	18,776

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 280.—*Beans, dry: Farm price per bushel, 15th of month, United States, 1910–1923.*

Year beginning Sept. 1—	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug	Weighted av., crop year.
1910–11	$2.28	$2.25	$2.14	$2.20	$2.20	$2.23	$2.17	$2.20	$2.17	$2.19	$2.23	$2.20	$2.21
1911–12	2.26	2.27	2.34	2.42	2.38	2.38	2.42	2.37	2.52	2.62	2.47	2.40	2.37
1912–13	2.38	2.44	2.25	2.31	2.26	2.19	2.10	2.11	2.18	2.23	2.22	2.11	2.25
1913–14	2.08	2.25	2.20	2.12	2.17	2.09	2.05	2.11	2.31	2.23	2.22	2.54	2.17
Av. 1910–1913	2.25	2.28	2.23	2.26	2.25	2.22	2.18	2.20	2.30	2.32	2.28	2.31	2.25
1914–15	2.46	2.17	2.28	2.40	2.63	3.02	2.89	2.81	2.93	2.87	2.75	2.67	2.56
1915–16	2.70	2.93	3.03	3.30	3.47	3.43	3.34	3.42	3.56	3.72	5.09	4.59	3.27
1916–17	4.60	4.47	5.53	5.77	5.71	6.07	6.49	7.37	8.94	8.99	8.07	7.29	5.92
1917–18	6.60	7.48	7.33	7.00	7.00	7.08	6.95	6.95	6.67	6.28	5.88	6.11	7.04
1918–19	5.67	5.52	5.46	4.86	4.98	4.52	4.40	4.44	4.19	4.39	4.25	4.30	4.98
1919–20	4.36	4.27	4.42	4.41	4.70	4.47	4.32	4.41	4.36	4.49	4.47	4.17	4.41
1920–21	3.83	3.46	3.27	2.99	2.95	2.85	2.89	2.69	2.73	2.82	2.75	2.83	3.12
Av. 1914–1920	4.33	4.33	4.47	4.39	4.49	4.49	4.47	4.58	4.77	4.79	4.75	4.57	4.47
1921–22	2.99	2.87	2.85	2.83	2.86	3.04	3.64	3.77	4.02	4.48	4.29	4.09	3.18
1922–23	3.22	3.36	3.71	3.91	4.24	4.42	4.30	4.32	4.26	4.05	3.94	3.62	3.88
1923–24	3.78	3.87	3.83	3.44									

Division of Crop and Livestock Estimates.

TABLE 281.—*Beans, dry: Carlot shipments by States of origin, calendar years, 1918–1923.*

State.	1918	1919	1920	1921	1922	1923
	Cars.	*Cars.*	*Cars.*	*Cars.*	*Cars.*	*Cars.*
New York	69	144	351	1,305	1,599	1,771
Michigan	833	1,765	2,123	5,855	4,955	5,869
Colorado	763	478	186	524	483	993
New Mexico	133	422	621	974	288	84
Idaho	177	232	147	145	236	48
California	2,080	4,681	3,481	3,759	3,821	3,269
All other	89	69	86	152	84	151
Total	4,144	7,791	6,905	12,714	11,466	12,185

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 282.—*Beans: Wholesale price per 100 pounds, 1914–1923.*

Calendar year—	Boston, pea.			Chicago, pea.			Detroit, pea.			San Francisco, small white.		
	Low.	High.	Average.	Low.	High.	Average.	Low.	High.	Average	Low.	High.	Average.
1914	$2.10	$3.10	$2.10	$1.60	$3.10	$2.22	$1.80	$2.90	$2.22	$4.00	$6.00	$4.98
1915	2.85	4.10	3.36	2.40	4.10	3.19	2.00	3.60	3.06	4.50	6.40	5.30
1916	3.80	7.25	4.96	3.00	8.00	4.24	3.50	7.00	4.82	6.25	11.50	8.05
1917	6.50	15.00	9.24	6.40	14.50	9.09	6.25	13.25	8.60	10.50	16.00	13.20
1918	9.00	14.00	12.08	8.25	15.00	11.49	8.63	13.25	10.75	8.90	12.75	11.64
1919	6.00	10.00	7.74	6.50	9.50	7.92	6.50	9.00	7.54	5.75	8.90	7.05
1920	4.75	8.25	6.98	4.25	9.25	6.76	3.90	7.90	6.25	3.75	6.75	5.72
Low, high, and average, 1914–1920	2.10	15.00	6.64	1.60	15.00	6.42	1.80	13.25	6.18	3.75	16.00	7.99
1921	4.25	5.50	4.88	3.60	5.50	4.61	3.30	4.78	3.99	3.20	4.90	4.03
1922	5.00	10.50	7.60	4.60	11.15	7.46	4.30	9.65	6.86	4.75	7.75	6.18
1923	6.75	8.00	7.44	5.30	9.00	7.04				5.75	7.75	6.67
1923.												
January	7.50	7.75	7.62	8.10	9.00	8.25				6.75	7.75	7.48
February	7.50	7.85	7.71	8.25	8.50	8.43				7.00	7.45	7.23
March	7.50	7.75	7.66	8.00	8.25	8.18				7.25	7.30	7.27
April	7.50	7.75	7.60	7.75	8.00	7.83				7.15	7.25	7.22
May	7.15	7.50	7.27	7.75	7.90	7.79				6.50	7.15	6.76
June	7.20	7.50	7.35	7.50	7.90	7.76				6.50	7.00	6.81
July	7.00	7.35	7.18	6.25	7.50	6.60				6.15	6.50	6.42
August	6.75	7.00	6.89	5.50	5.85	5.68				5.75	6.25	6.05
September	7.25	7.50	7.40	5.85	6.30	5.99				6.50	7.00	6.75
October	7.75	7.75	7.75	6.30	6.50	6.35				5.75	7.00	6.05
November	7.50	8.00	7.79	5.70	6.50	6.10				6.00	6.25	6.09
December	7.00	7.25	7.12	5.30	5.70	5.54				5.75	6.15	5.92

Division of Statistical and Historical Research. Compiled from Boston Chamber of Commerce, Chicago Daily Trade Bulletin, Michigan Elevator Exchange, San Francisco Daily Commercial News

SOY BEANS.

TABLE 283.—*Soy beans: Farm price per bushel, 15th of month, United States, 1913–1923.*

Year beginning Oct. 1—	October.	November.	December.	January.	February.	Weighted average.
1913–14	$1.96	$1.57	$1.72	$1.96	$1.80	$1.76
1914–15	2.08	2.15	2.24	2.35	2.26	2.18
1915–16	1.88	2.08	2.23	2.31	2.39	2.11
1916–17	2.13	2.13	2.18	2.20	2.45	2.16
1917–18	2.73	2.80	3.33	3.47	3.82	3.05
1918–19	3.36	3.20	3.20	3.00	3.00	3.23
1919–20	3.34	3.35	3.44	3.76	4.05	3.45
1920–21	3.41	3.00	2.28	2.18	2.17	2.80
1921–22	2.20	2.22	2.08	2.11	2.10	2.17
1922–23	1.89	2.06	1.97	2.07	2.13	2.00
1923–24	2.09	2.11	2.11			

Division of Crop and Livestock Estimates.

TABLE 284.—*Soy beans: Acreage, yield per acre, and production, by States, calendar years, 1922 and 1923.*

State.	Equivalent solid acreage utilized.[1]								Beans gathered.[2]								Hay.			
	Primarily for beans.		Primarily for hay.		Primarily for grazing, hogging, etc.		Total.		Yield per acre from acreage grown primarily for beans.		Production.						Yield per acre from acreage primarily for hay.		Production from acreage primarily for hay.	
											From acreage grown primarily for beans.		From acreage utilized primarily for other purposes.		Total.					
	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923	1922	1923[3]
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*Tons.*	*Tons.*	*1,000 tons.*	*1,000 tons.*
Delaware	2	3	3	3	1	1	6	7	14.3	15.4	29	46			29	46	1.75	1.40	5	4
Maryland	5	7	10	12	3	5	18	24	16.0	17.5	80	122			80	122	2.00	1.80	20	18
Virginia	13	14	40	48	10	10	63	72	16.0	19.0	208	266	69	89	277	355	1.80	1.88	72	86
West Virginia	1	1	5	5	1	1	7	7	15.0	15.0	15	15	1	1	16	16	1.70	1.70	8	8
North Carolina	100	105	65	70	60	65	225	240	16.0	17.0	1,600	1,785	400	446	2,000	2,231	1.30	1.40	84	98
South Carolina	3	5	4	9	3	7	10			12.0	33	60	10	30	43	90	.90	90	4	8
Georgia	3	7	7	20	2	5	12			11.0	37	77	29	61	66	138	.93	.80	7	16
Ohio	31	50	30	50	29	28	90	128		16.0	465	800			465	800	1.70	1.50	51	75
Indiana	20	40	29	95	64	64	113	199		14.0	240	560	220	550	460	1,110	1.50	1.40	44	134
Illinois	65	92	70	137	58	213	193	442		14.0	812	1,288	388	434	1,200	1,722	1.50	1.90	105	247
Michigan	4	6	4	4	4	4	12	14	10.2	11.0	41	66	10		51	66	1.32	1.50	5	6
Wisconsin	7	4	11	14	30	30	48	48	11.0	8.0	77	32			77	32	1.20	1.30	13	18
Iowa	6	10	7	10	100	150	113	170	22.0	17.0	132	170			132	170	1.40	1.90	10	19
Missouri	15	70	33	68	51	112	99	250	11.0	12.0	165	840	41	95	206	935	1.25	1.40	41	95
Kentucky	6	6	38	38	21	21	65	65	13.0	14.0	78	84	84	94	162	178	1.25	1.45	48	55
Tennessee	6	6	125	130	23	23	154	159	9.0	9.0	54	54	63	63	117	117	1.35	1.35	169	176
Alabama	18	17	60	52	35	37	113	106	8.6	8.5	155	144	83	78	238	222	1.20	1.03	72	54
Mississippi	8	8	19	23	16	14	43	45	12.0	14.5	96	116	96	116	192	232	1.20	1.35	23	31
Louisiana	1	1	1	6	1	1	3	8	12.1	16.0	12	16	9	13	21	29	1.00	1.40	1	8
Total	314	452	561	794	512	791	1,387	2,037	13.78	14.47	4,329	6,541	1,503	2,070	5,832	8,611	1.394	1.455	782	1,155

Division of Crop and Livestock Estimates.

[1] Interplanted acreage is included as its equivalent solid acreage.

[2] Shelled, or equivalent bushels in the pod.

[3] Preliminary.

COWPEAS.

TABLE 285.—*Cowpeas: Acreage, yield per acre, and production, by States, calendar years, 1922 and 1923.*

State.	Equivalent solid acreage utilized.[1]								Peas (gathered).[2]								Hay.			
	Primarily for peas.		Primarily for hay.		Primarily for grazing, hogging, etc.		Total.		Yield per acre from acreage grown primarily for peas.		Production.						Yield per acre from acreage primarily for hay.		Production from acreage primarily for hay.	
											From acreage grown primarily for peas.		From acreage utilized primarily for other purposes.		Total.					
	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923	1922	1923[3]
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bush.*	*Bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*Tons.*	*Tons.*	*1,000 tons.*	*1,000 tons.*
Delaware	2	2	10	17	1	1	13	20	13.5	14.0	27	28	-------	-------	27	28	1.75	1.40	18	24
Maryland	3	4	14	20	4	4	21	28	14.4	13.0	43	52	-------	-------	43	52	2.00	1.50	28	30
Virginia	22	20	84	90	14	14	120	124	12.0	14.0	264	280	113	120	377	400	1.70	1.70	143	158
West Virginia	1	1	8	8	1	1	10	10	13.0	14.0	13	14	1	1	14	15	1.55	1.50	12	12
North Carolina	110	100	170	160	120	98	400	358	12.0	10.0	1,320	1,000	809	613	2,129	1,613	1.10	1.00	187	160
South Carolina	300	304	277	293	150	130	727	727	7.5	10.0	2,250	3,040	750	960	3,000	4,000	.85	.80	235	234
Georgia	230	181	333	380	140	160	703	721	8.9	8.5	2,047	1,538	1,482	1,180	3,529	2,718	.90	.70	300	266
Florida	11	14	33	36	42	44	86	94	11.0	11.0	121	154	246	313	367	467	.78	.95	24	34
Indiana	18	23	66	95	17	20	101	138	12.0	10.0	216	230	130	180	346	410	1.50	1.50	99	142
Illinois	53	45	90	97	19	19	162	161	7.0	9.5	371	427	161	114	532	541	1.50	1.57	135	152
Missouri	21	23	74	97	30	30	125	150	9.0	9.0	189	207	83	107	272	314	1.13	1.00	87	97
Kentucky	10	10	58	58	28	28	96	96	12.0	12.0	120	120	150	150	270	270	1.30	1.45	75	84
Tennessee	14	12	175	168	40	36	229	216	7.0	7.0	98	84	106	91	204	175	1.30	1.10	228	185
Alabama	240	179	220	182	209	154	669	515	9.0	8.5	2,160	1,522	1,379	974	3,539	2,496	.90	.78	198	142
Mississippi	160	154	160	163	127	104	447	421	8.0	7.5	1,280	1,155	1,135	1,025	2,415	2,189	1.00	1.10	160	179
Louisiana	55	46	75	65	105	95	235	206	14.6	13.5	803	621	657	508	1,460	1,129	1.10	1.20	82	78
Texas	44	55	22	26	110	81	176	162	9.1	12.0	400	660	176	121	576	781	1.25	.80	23	21
Arkansas	50	45	120	110	62	57	232	212	10.0	10.0	500	450	350	220	850	670	1.10	1.10	132	121
Total	1,344	1,218	1,989	2,065	1,219	1,076	4,552	4,359	9.21	9.50	12,222	11,582	7,728	6,677	19,950	18,259	1,092	1,024	2,171	2,110

Division of Crop and Livestock Estimates.

[1] Interplanted acreage is included as its equivalent solid acreage.

[2] Shelled, or equivalent bushels in the pod.

[3] Preliminary.

TABLE 286.—*Cowpeas: Farm price per bushel, 15th of month, United States, 1915–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1915–16	174.4	155.4	156.0	151.4	151.8	156.3	157.2	153.7	150.2	148.8	140.0	135.1	151.9
1916–17	141.3	142.4	148.1	161.6	177.0	192.2	210.0	231.8	253.4	293.1	309.1	303.2	189.7
1917–18	265.4	217.0	219.5	227.1	237.5	262.2	292.5	301.5	292.8	283.3	257.4	248.4	236.2
1918–19	241.3	226.2	233.9	231.4	237.6	238.9	252.1	248.8	267.6	292.3	343.9	342.8	254.3
1919–20	310.3	269.4	260.9	270.7	280.6	312.9	372.4	394.0	421.4	484.4	483.7	470.8	319.4
1920–21	422.7	368.8	273.7	243.4	229.0	197.2	204.2	204.7	215.5	242.7	265.1	287.2	273.8
1921–22	240.9	199.7	201.2	184.8	176.1	171.9	179.7	185.8	184.8	189.5	184.0	170.0	190.7
1922–23	166.5	157.4	153.6	160.7	167.4	187.0	197.6	198.2	208.0	208.5	217.2	221.3	172.8
1923–24	208.1	187.2	195.4	194.7	200.9								

Division of Crop and Livestock Estimates.

VELVET BEANS.

TABLE 287.—*Velvet beans: Acreage, yield per acre, and production, calendar years, 1922 and 1923.*

State.	Equivalent solid acreage utilized.[1]						Beans gathered.[2]							
	Primarily for beans.		Primarily for grazing, hogging, etc.		Total.		Yield per acre from acreage grown primarily for beans.		Production.					
									From acreage grown primarily for beans.		From acreage utilized primarily for other purposes.		Total.	
	1922	1923[3]	1922	1923[3]	1922	1923[3]	1922	1923	1922	1923[3]	1922	1923[3]	1922	1923[3]
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bushels.*	*Bushels.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
North Carolina	5	6	36	39	41	45	11.0	11.0	55	66	68	75	123	141
South Carolina	50	50	175	195	225	245	13.0	13.0	650	650	533	490	1,183	1,140
Georgia	222	218	520	510	742	728	11.8	11.9	2,620	2,594	1,124	1,000	3,744	3,594
Florida	30	25	210	225	240	250	12.0	13.0	360	325	200	178	560	503
Alabama	250	225	450	366	700	591	11.3	11.0	2,825	2,475	1,130	990	3,955	3,465
Mississippi	40	38	216	205	256	243	10.0	12.0	400	456	200	185	600	641
Louisiana	35	30	132	132	167	162	11.2	8.6	392	258	482	204	874	462
Texas	8	9	40	42	48	51	13.0	9.0	104	81	110	75	214	156
Total	640	601	1,779	1,714	2,419	2,315	11.57	11.49	7,406	6,905	3,847	3,197	11,253	10,102

Division of Crop and Livestock Estimates.

[1] Interplanted acreage is included as its equivalent solid acreage.
[2] Shelled, or equivalent bushels in the pod.
[3] Preliminary.

BROOM CORN.

TABLE 288.—*Broom corn: Acreage, production, and total farm value, United States, 1915–1923; by States, 1922 and 1923.*

Calendar year, and State.	Acreage.		Average yield in pounds per acre.		Production (tons).		Average farm price per ton Nov. 15.		Farm value, thousands of dollars.	
1915	230,100		454.1		52,242		91.67		4,789	
1916	235,200		329.3		38,726		172.75		6,690	
1917	345,000		332.8		57,400		292.75		16,804	
1918	366,000		340.4		62,300		233.87		14,570	
1919	352,000		303.4		53,400		154.57		8,254	
1920	275,500		265.0		36,500		126.16		4,605	
1921	222,000		344.2		38,200		72.20		2,758	
Leading States.	1922	1923 [1]	1922	1923	1922	1923 [1]	1922	1923	1922	1923 [1]
Total	275,000	498,000	271.3	278.3	37,300	69,300	219.46	160.61	8,186	11,130
Illinois	21,000	37,000	680	475	7,100	8,800	260	235	1,846	2,068
Missouri	3,000	4,000	560	500	800	1,000	225	188	180	188
Kansas	16,000	58,000	390	370	3,100	10,700	221	118	685	1,263
Texas	16,000	80,000	375	363	3,000	5,400	200	150	600	810
Oklahoma	195,000	271,000	200	220	19,500	29,800	213	170	4,154	5,066
Colorado	10,000	48,000	350	300	1,800	7,200	195	145	351	1,044
New Mexico	14,000	50,000	290	255	2,000	6,400	185	108	370	691

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 289.—*Broom corn: Farm price per ton, 15th of month, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$190	$197	$200	$204	$199	$151	$180	$142	$139	$108	$96	$93
1911	81	80	78	74	81	69	68	72	92	121	124	108
1912	100	86	99	101	83	79	85	83	77	70	69	57
1913	49	56	57	58	53	61	57	91	106	102	100	92
Av. 1910–1913	105	105	108	109	104	90	98	97	104	100	97	88
1914	94	95	91	89	85	88	88	91	77	67	66	58
1915	66	78	68	71	75	77	79	83	75	86	92	101
1916	104	104	104	96	101	102	103	120	129	168	173	172
1917	184	201	212	227	252	223	194	308	240	270	296	280
1918	249	254	242	222	206	222	235	232	300	265	205	172
1919	169	141	174	149	152	106	119	124	154	162	161	163
1920	163	123	130	145	146	145	113	142	125	126	123	88
Av. 1914–1920	147	142	146	143	145	138	133	157	157	163	159	148
1921	70	71	72	69	66	76	75	67	68	72	68	86
1922	71	88	80	76	82	87	84	122	175	193	221	238
1923	229	256	242	254	223	233	214	195	169	197	161	172

Division of Crop and Livestock Estimates.

COTTON.

TABLE 290.—*Cotton: Acreage, production, value, exports, etc., United States, 1869–1923.*

Calendar year.	Acreage picked.	Average yield per acre.	Production.	Average farm price per pound, Dec. 1	Farm value, Dec. 1.	Value per acre, Dec. 1.[1]	New York closing prices per pound on middling upland.				Domestic exports, fiscal year beginning July 1.	Imports fiscal year beginning July 1.
							December.		Following May.			
							Low.	High.	Low.	High.		
	1,000 acres.	*Lbs.*	*1,000 bales.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bales.*[2]	*Bales.*[2]
1869	7,743	196.9	*5,012*				25.00	25.50	22.50	23.50	1,917,117	3,396
1870	8,885	198.9	8,800				15.00	15.88	14.88	17.62	2,925,856	2,394
1871	7,558	148.2	2,553				19.12	20.25	23.75	26.38	1,867,075	5,788
1872	8,483	188.7	3,920				19.12	20.25	19.25	19.62	2,400,127	8,851
1873	9,510	179.7	3,683				15.62	16.50	17.75	18.88	2,717,205	7,252
1874	11,764	147.5	3,941				14.12	14.88	16.12	16.38	2,520,838	4,299
1875	11,934	190.6	5,123				13.06	13.31	11.81	13.12	2,982,811	4,903
1876	11,677	167.8	4,488	9.0	174,724	14.96	12.06	12.50	10.81	11.38	2,890,738	5,313
1877	12,133	163.8	4,370				11.25	11.50	10.62	11.25	3,215,067	6,064
1878	12,344	191.2	5,244	8.2	192,515	15.60	8.81	9.50	11.88	13.75	3,256,746	5,987
1879	*14,480*	181.0	*5,755*	10.3	269,305	18.60	12.38	13.44	11.69	11.88	3,644,363	7,096
1880	15,951	184.5	6,343	9.8	289,063	18.12	11.88	12.00	10.44	10.88	4,382,009	8,909
1881	16,711	149.8	5,456				11.88	12.12	12.06	12.38	3,480,792	8,680
1882	16,277	185.7	6,957	9.1	275,513	16.93	10.25	10.44	10.50	11.12	4,576,378	8,164
1883	16,778	164.8	5,701	9.1	250,977	14.96	10.88	10.56	11.50	11.75	3,725,145	14,039
1884	17,440	153.8	5,682	9.2	246,575	14.14	10.44	11.44	10.69	11.00	3,783,319	10,231
1885	18,301	164.4	6,575	8.4	251,775	13.76	9.19	9.44	9.19	9.31	4,116,149	10,145
1886	18,455	169.5	6,446	8.1	251,856	13.65	9.19	9.56	10.75	11.44	4,338,915	7,849
1887	18,641	182.7	7,020	8.5	290,901	15.61	10.50	10.62	9.94	10.06	4,528,883	10,995
1888	19,059	180.4	6,941	8.5	292,139	15.33	9.75	9.88	11.00	11.19	4,770,065	15,946
1889	*20,175*	159.7	*7,475*	8.5	275,249	13.64	10.25	10.25	11.94	12.75	4,943,925	17,212
1890	19,512	187.0	8,674	8.6	313,360	16.06	9.19	9.44	8.88	8.94	5,814,718	41,818
1891	19,059	179.4	9,018	7.2	247,633	12.99	7.75	8.06	7.25	7.44	5,870,440	57,328
1892	15,911	209.2	6,664	8.3	277,194	17.42	9.38	10.00	7.62	7.81	4,424,230	86,736
1893	19,525	149.9	7,498	7.0	204,963	10.50	7.81	8.06	7.12	7.38	5,306,565	55,412
1894	23,688	195.3	9,476	4.6	212,335	8.96	5.69	5.81	6.75	7.38	7,034,866	98,664
1895	20,185	155.6	7,161	7.6	238,503	11.82	8.25	8.56	8.00	8.38	4,670,453	110,701
1896	23,273	184.9	8,533	6.7	286,169	12.30	7.06	7.69	7.62	7.81	6,207,510	103,798
1897	24,320	182.7	10,898	6.7	296,816	12.20	5.81	5.94	6.31	6.56	7,725,572	105,321
1898	24,967	220.6	11,189	5.7	315,449	12.63	5.62	5.88	6.12	6.25	7,575,438	100,316
1899	24,327	183.8	*9,345*	7.0	326,215	13.41	7.50	7.75	9.00	9.88	6,252,451	134,797
1900	24,933	194.4	*10,125*	9.2	463,310	18.58	9.75	10.31	8.06	8.31	6,718,125	93,263
1901	26,774	170.0	*9,510*	7.0	334,068	12.48	8.00	8.75	9.38	9.75	7,057,949	197,431
1902	27,175	157.3	*10,631*	7.6	403,718	14.86	8.50	8.88	10.75	12.15	7,138,284	149,749
1903	27,052	174.3	*9,851*	10.5	516,763	19.10	11.95	14.10	12.75	13.90	6,179,712	97,681
1904	31,215	205.9	*13,438*	9.0	603,438	19.33	6.85	9.00	7.85	8.85	8,678,644	121,017
1905	27,110	186.6	*10,575*	10.8	569,791	21.02	11.65	12.60	11.25	12.00	7,268,090	141,927
1906	31,374	202.5	*13,274*	9.6	635,534	20.26	10.45	11.25	11.50	12.90	9,036,434	209,584
1907	29,660	179.1	*11,107*	10.4	575,226	19.39	11.70	12.20	10.20	11.50	7,633,997	142,146
1908	32,444	194.9	*13,243*	8.7	575,092	17.73	9.10	9.35	10.85	11.80	8,895,970	173,086
1909	30,938	154.3	*10,005*	13.9	697,681	22.55	14.65	16.15	14.50	16.05	6,413,416	172,075
1910	32,403	170.7	*11,609*	14.1	820,407	25.32	14.80	15.25	15.35	16.15	8,067,882	227,537
1911	36,045	207.7	*15,693*	8.8	687,888	19.08	9.20	9.65	11.30	11.90	11,070,251	219,560
1912	34,283	190.9	*13,703*	11.9	817,055	23.83	12.75	13.20	11.80	12.10	9,124,591	243,704
1913	37,089	182.0	*14,156*	12.2	862,708	23.26	12.50	13.50	12.90	14.50	9,521,881	246,694
Av. 1909–1913	34,152	182.5	*12,033*	12.5	777,148	22.76	12.78	13.55	13.17	14.14	8,839,604	221,914
1914	36,832	209.2	*16,135*	6.8	549,036	14.91	7.25	7.80	9.50	10.40	8,807,157	370,409
1915	31,412	170.3	*11,198*	11.3	631,460	20.10	11.95	12.75	12.30	13.35	6,168,140	465,602
1916	34,985	156.6	*11,450*	19.6	1,122,295	32.08	16.20	20.30	19.60	22.10	6,176,162	294,123
1917	33,841	159.7	*11,302*	27.7	1,566,198	46.28	29.85	31.85	25.70	30.10	4,641,023	206,651
1918	36,008	159.6	*12,041*	27.6	1,663,633	46.20	27.50	33.00	25.90	34.00	5,525,894	207,184
1919	33,566	161.5	*11,421*	35.6	2,034,658	60.62	38.00	40.25	40.00	43.00	7,067,487	690,628
1920	35,878	178.4	*13,440*	13.9	933,658	26.02	14.50	16.70	12.45	13.15	5,622,777	251,878
Av. 1914–1920	34,646	171.6	*12,486*	20.4	1,214,420	35.05	20.75	23.24	20.78	23.73	6,289,806	355,211
1921	30,509	124.5	*7,954*	16.2	643,933	21.05	17.50	19.45	18.95	21.80	6,717,757	358,330
1922	33,036	141.5	*9,760*	23.8	1,161,846	35.03	24.55	26.80	25.30	28.90	5,253,464	472,185
1923[3]	37,420	128.8	10,381	31.0	1,563,347	41.98	34.35	37.65	------	------	-------	-------

Division of Crop and Livestock Estimates; figures in italics are census returns; acreage revised on census basis since 1899.

[1] Based on farm price Dec. 1.

[2] Bales of 500 pounds gross weight.

[3] Preliminary.

TABLE 291.—*Cotton ginned to specified dates and throughout the season, United States, 1902–1923.*

Growth year.	Cotton ginned to—									Total ginned.
	Sept. 1.	Sept. 25.	Oct. 18.	Nov. 1.	Nov. 14.	Dec. 1.	Dec. 13.	Jan. 1.	Jan. 16.	
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
1902			5,683,006				8,905,505			10,588,250
1903	17,302		3,706,248		6,815,162		8,526,244		9,485,537	9,819,969
1904	374,821		6,417,894		9,786,646		11,971,477		12,767,600	13,451,337
1905	476,655	2,355,716	4,990,566	6,457,595	7,501,180	8,689,663	9,297,819	9,725,426	9,989,634	10,495,105
1906	407,551	2,057,283	4,931,621	6,906,395	8,562,242	10,027,868	11,112,789	11,741,039	12,176,199	12,983,201
1907	200,278	1,532,602	4,420,258	6,128,562	7,300,665	8,343,396	9,284,070	9,951,505	10,339,551	11,057,822
1908	402,229	2,590,639	6,296,166	8,191,557	9,595,809	11,008,661	11,904,269	12,465,298	12,666,203	13,086,005
1909	388,242	2,568,150	5,530,967	7,017,849	8,112,199	8,876,886	9,358,085	9,647,327	9,787,592	10,072,731
1910	353,011	2,312,074	5,423,628	7,345,953	8,780,433	10,139,712	10,695,443	11,084,515	11,253,147	11,568,334
1911	771,297	3,676,594	7,758,621	9,970,905	11,313,236	12,816,807	13,770,727	14,317,002	14,515,799	15,553,073
1912	730,884	3,007,271	6,874,206	8,869,222	10,299,646	11,854,541	12,439,036	12,907,405	13,088,930	13,488,539
1913	799,099	3,246,655	6,973,518	8,830,396	10,444,529	12,088,412	12,927,428	13,347,721	13,582,036	13,982,811
Av. 1909–1913	608,507	2,962,149	6,512,188	8,406,865	9,790,529	11,155,272	11,838,144	12,260,794	12,445,501	12,933,098
1914	480,317	3,393,752	7,619,747	9,826,912	11,668,240	13,073,386	13,972,229	14,443,146	14,915,850	15,905,840
1915	463,883	2,903,829	5,708,730	7,378,886	8,771,275	9,703,612	10,306,309	10,636,778	10,751,990	11,068,178
1916	850,668	4,081,989	7,303,183	8,623,893	9,615,003	10,352,031	10,838,799	11,039,491	11,137,712	11,363,915
1917	614,787	2,511,658	5,573,606	7,185,178	8,571,115	9,713,529	10,131,594	10,434,852	10,570,733	11,248,242
1918	1,038,078	3,770,611	6,811,351	7,777,159	8,706,420	9,571,414	10,281,139	10,773,863	11,048,652	11,906,480
1919	142,625	1,835,214	4,929,104	6,305,054	7,604,320	8,844,368	9,396,646	10,008,920	10,307,120	11,325,532
1920	351,589	2,249,606	5,754,582	7,508,033	8,914,642	10,141,293	10,876,263	11,554,648	12,014,742	13,270,970
Av 1914–1920	563,135	2,963,808	6,242,000	7,800,816	9,121,574	10,199,948	10,828,997	11,270,243	11,535,257	12,298,450
1921	485,787	2,920,392	5,497,364	6,646,354	7,274,201	7,639,961	7,790,656	7,882,356	7,912,452	7,977,778
1922	806,189	3,866,396	6,978,321	8,139,215	8,869,978	9,319,601	9,488,852	9,597,330	9,648,261	9,729,306
1923	1,135,880	3,235,974	6,415,145	7,565,866	8,374,148	9,251,264	9,554,177	9,811,038	[2] 9,946,462	10,159,498

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census; quantities are given in running bales, except that round bales are counted as half bales. Linters not included.

[1] Includes cotton ginned after Jan. 16 and estimated quantities not ginned on Mar. 1. Quantities in Table 290 converted from running bales, average weight, by deducting average weight of bagging and ties, by States.

[2] Preliminary.

TABLE 292.—*Cotton (linters): Production, United States, 1899–1922.*

Year beginning Aug. 1.	Production, in 500-lb. gross-weight bales.	Year beginning Aug. 1.	Production, in 500-lb. gross-weight bales.	Year beginning Aug. 1.	Production, in 500-lb. gross-weight bales.
1899–1900	114,544	1909–10	310,433	1916–17	1,330,714
1900–1	143,500	1910–11	397,072	1917–18	1,125,719
1901–2	166,026	1911–12	557,575	1918–19	929,516
1902–3	196,223	1912–13	609,594	1919–20	607,969
1903–4	194,486	1913–14	638,881	1920–21	440,313
1904–5	241,942				
1905–6	229,539	Av. 1909–1913	502,711	Av. 1914–1920	903,182
1906–7	321,689				
1907–8	268,282	1914–15	856,900	1921–22	397,752
1908–9	345,507	1915–16	931,141	1922–23	607,779

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

TABLE 293.—*Cotton: Acreage harvested, by States, calendar years, 1914–1923.*

State.	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923[1]
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Virginia	45	34	42	50	44	42	42	34	55	73
North Carolina	1,527	1,282	1,451	1,515	1,600	1,490	1,587	1,403	1,625	1,678
South Carolina	2,861	2,516	2,780	2,837	3,001	2,835	2,964	2,571	1,912	2,030
Georgia	5,433	4,825	5,277	5,195	5,341	5,220	4,900	4,172	3,418	3,433
Florida	221	193	191	183	167	103	100	65	118	143
Alabama	4,007	3,340	3,225	1,977	2,570	2,791	2,858	2,235	2,771	3,149
Mississippi	3,054	2,735	3,110	2,788	3,138	2,848	2,950	2,628	3,014	3,298
Louisiana	1,299	990	1,250	1,454	1,683	1,527	1,470	1,168	1,140	1,395
Texas	11,931	10,510	11,400	11,092	11,233	10,476	11,398	10,745	11,874	14,081
Arkansas	2,480	2,170	2,600	2,740	2,991	2,725	2,980	2,382	2,799	3,054
Tennessee	915	772	887	882	902	758	840	634	985	1,167
Missouri	145	96	133	153	148	125	136	103	198	339
Oklahoma	2,847	1,895	2,562	2,783	2,998	2,424	2,749	2,206	2,915	3,295
California[2]	47	39	52	136	173	185	275	140	202	233
Arizona				41	95	107	230	90	101	128
All other	20	15	25	15	12	10	24	18	44	72
United States	36,832	31,412	34,985	33,841	36,008	33,566	35,878	30,509	33,036	37,420

Division of Crop and Livestock Estimates.

[1] Preliminary.

[2] Lower California (148,000 acres in 1923, 135,000 in 1922, 85,000 in 1921, 125,000 in 1920, 100,000 in 1919, and 88,000 in 1914) included in California figures but excluded from United States totals.

TABLE 294.—*Cotton: Production of lint (excluding linters) in 500-pound gross-weight bales, by States, year beginning Aug. 1, 1914–1923.*

[Thousands of bales, as finally reported by U. S. Bureau of the Census.]

State.	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923[1]
Virginia	25	16	27	19	25	23	22	17	27	50
North Carolina	931	699	655	618	898	830	925	776	852	1,020
South Carolina	1,534	1,134	932	1,237	1,570	1,426	1,623	755	493	795
Georgia	2,718	1,909	1,821	1,884	2,122	1,660	1,415	787	715	590
Florida	81	48	41	38	29	16	18	11	25	12
Alabama	1,751	1,021	533	518	801	713	663	580	824	600
Mississippi	1,246	954	812	905	1,226	961	895	813	989	615
Louisiana	449	341	443	639	588	298	388	279	343	365
Texas	4,592	3,227	3,726	3,125	2,697	3,099	4,345	2,198	3,222	4,290
Arkansas	1,016	816	1,134	974	987	884	1,215	797	1,011	620
Tennessee	384	303	382	240	330	310	325	302	391	220
Missouri	82	48	63	61	62	64	79	70	[2] 149	15
Oklahoma	1,262	640	823	959	577	1,016	1,336	481	627	630
California	50	29	44	58	67	56	75	34	28	49
Arizona				22	56	60	103	45	47	83
All other	14	7	14	5	6	5	13	9	19	37
United States	16,135	11,192	11,450	11,302	12,041	11,421	13,440	7,954	9,762	10,081

Division of Crop and Livestock Estimates.

[1] Preliminary estimate of the Department of Agriculture.

[2] Includes 6,000 net bales Missouri cotton estimated to have been ginned in Arkansas.

TABLE 295.—*Cotton: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1908–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Pounds.	*Pounds.*	*Pounds*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Virginia	210	190	212	330	250	240	244	265	225	310	180	270	255	230	248	230	230	325
North Carolina	211	210	227	315	267	239	252	290	260	215	194	268	266	275	253	264	250	290
South Carolina	219	210	216	280	209	235	230	255	215	160	208	250	240	260	227	140	123	157
Georgia	190	184	173	240	159	208	193	239	189	165	173	190	152	138	178	90	100	82
Florida	112	110	110	130	113	150	123	175	120	105	100	85	74	86	106	80	102	40
Alabama	179	142	160	204	172	190	174	209	146	79	125	149	122	111	134	124	142	91
Mississippi	233	157	182	172	173	204	178	195	167	125	155	187	160	145	162	148	157	89
Louisiana	145	130	120	170	193	170	157	165	165	170	210	167	93	126	157	114	144	125
Texas	196	125	145	186	206	150	162	184	147	157	135	115	140	174	150	98	130	146
Arkansas	215	153	175	190	190	205	183	196	180	209	170	158	155	195	180	160	173	97
Tennessee	218	158	207	257	169	210	200	200	188	206	130	175	195	185	183	228	190	90
Missouri	340	271	285	360	260	286	292	270	240	225	190	200	257	275	237	325	360	162
Oklahoma	143	147	200	160	183	132	164	212	162	154	165	92	195	230	173	104	103	90
California	--------	--------	335	390	450	500	--------	500	380	400	242	270	268	266	332	258	188	277
Arizona	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	285	280	270	224	--------	242	222	311
United States	194.9	154.3	170.7	207.7	190.9	182.0	181.1	209.2	170.3	156.6	159.7	159.6	161.5	178.4	170.8	124.5	141.5	128.8

Division of Crop and Livestock Estimates.

TABLE 296.—*Cotton: Condition of crop, with yield per acre, United States, 1867–1923.*

Calendar year.	May 25.	June 25.	July 25.	Aug. 25.	Sept. 25.	Yield per acre.	Calendar year.	May 25.	June 25	July 25.	Aug. 25.	Sept. 25.	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Pounds of lint.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Pounds of lint.*
1867	------	110.7	117.8	118.4	104.6	189.8	1901	81.5	81.1	77.2	71.4	61.4	170.9
1868	------	110.4	115.0	89.1	88.2	192.2	1902	95.1	84.7	81.9	64.0	58.3	187.3
1869	------	90.2	101.6	99.1	85.3	196.9	1903	74.1	77.1	79.7	81.2	65.1	174.3
1870	------	98.0	99.3	105.7	98.8	198.9	1904	83.0	88.0	91.6	84.1	75.8	205.9
1871	86.7	85.8	85.6	81.5	76.7	148.2	1905	77.2	77.0	74.9	72.1	71.2	186.6
1872	99.7	103.0	104.0	90.7	81.8	188.7	1906	84.6	83.3	82.9	77.3	71.6	202.5
1873	91.3	87.5	90.0	87.9	79.3	179.7	1907	70.5	72.0	75.0	72.7	67.7	179.1
1874	82.2	91.0	92.0	71.0	71.7	147.5	1908	79.7	81.2	83.0	76.1	69.7	194.9
1875	96.1	100.0	96.0	89.2	88.0	190.6							
1876	94.4	97.6	99.4	90.5	82.7	167.8	1909	81.1	74.6	71.9	63.7	58.5	154.3
							1910	82.0	80.7	75.5	72.1	65.9	170.7
1877	92.9	93.0	93.0	86.0	82.0	163.8	1911	87.8	88.2	89.1	73.2	71.1	207.7
1878	99.0	99.0	95.0	90.0	90.0	191.2	1912	78.9	80.4	76.5	74.8	69.6	190.9
1879	96.0	93.0	91.0	85.0	81.0	181.0	1913	79.1	81.8	79.6	68.2	64.1	182.0
1880	99.0	100.0	102.0	91.0	84.0	184.5							
1881	93.0	95.0	88.0	72.0	66.0	149.8	Av. 1909–1913	81.8	81.1	78.5	70.4	65.8	181.1
1882	89.0	92.0	94.0	92.0	88.0	185.7							
1883	86.0	90.0	84.0	74.0	68.0	164.8	1914	74.3	79.6	76.4	78.0	73.5	209.2
1884	87.0	86.0	87.0	82.5	74.7	153.8	1915	80.0	80.2	75.4	69.2	60.8	170.3
1885	92.0	96.0	96.5	87.0	78.0	164.4	1916	77.5	81.1	72.3	61.2	56.3	156.6
1886	88.7	86.1	81.3	82.1	79.3	169.5	1917	69.5	70.3	70.3	67.8	60.4	159.7
1887	96.9	96.9	93.3	82.8	76.5	182.7	1918	82.3	85.8	73.6	55.7	54.4	159.6
1888	88.2	86.7	87.3	83.8	78.9	180.4	1919	75.6	70.0	67.1	61.4	54.4	161.5
1889	86.4	87.6	89.3	86.6	81.5	159.7	1920	62.4	70.7	74.1	67.5	59.1	178.4
1890	88.8	91.4	89.5	85.5	80.0	187.0							
1891	85.7	88.6	88.9	82.7	75.7	179.4	Av. 1914–1920	74.5	76.8	72.7	65.8	59.8	170.8
1892	85.9	86.9	82.3	76.8	73.3	209.2							
1893	85.6	82.7	80.4	73.4	70.7	149.9	1921	66.0	69.2	64.7	49.3	42.2	124.5
1894	88.3	89.6	91.8	85.9	82.7	196.3	1922	69.6	71.2	70.8	57.0	50.0	141.5
1895	81.0	82.3	77.9	70.8	65.1	155.6	1923	71.0	69.9	67.2	54.1	49.5	128.8
1896	97.2	92.5	80.1	64.2	60.7	184.9							
1897	83.5	86.0	86.9	78.3	70.0	182.7							
1898	89.0	91.2	91.2	79.8	75.4	220.6							
1899	85.7	87.8	84.0	68.5	62.4	183.8							
1900	82.5	75.8	76.0	68.2	67.0	194.4							

Division of Crop and Livestock Estimates.

TABLE 297.—*Cotton: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	14.9	6.0	1.1	1.0	.6	3.0	1.4	28.6	4.2	7.9	(2)	.1	42.0
1910	12.2	5.1	.9	2.1	.3	1.6	.1	22.6	.4	7.5	(2)	.3	35.6
1911	9.8	2.6	(2)	.3	.1	1.6	.3	15.4	.4	7.9	(2)	.2	26.1
1912	8.1	7.6	1.2	1.0	.6	1.2	.2	20.7	4.3	6.5	.1	.3	32.7
1913	15.2	2.0	.8	1.1	.4	2.4	.5	23.1	.5	8.9	(2)	.4	33.7
1914	7.9	2.9	.5	.9	.4	.6	.1	13.8	.2	9.8	(2)	.2	25.4
1915	6.8	5.7	1.9	.6	.7	1.1	2.0	19.3	1.9	12.2	(2)	.1	36.8
1916	9.2	9.1	3.1	.4	.7	.6	2.0	25.2	.9	15.7	(2)	.1	42.4
1917	15.1	1.7	.5	6.0	1.0	.7	.2	25.5	1.3	12.3	(2)	.1	39.9
1918	23.8	.9	.3	.6	.1	2.8	.3	29.2	2.0	7.9	(2)	.1	40.3
1919	2.7	15.3	1.6	.3	.2	.4	.5	21.2	1.4	18.8	(2)	.2	41.9
1920	2.2	8.8	.8	.8	.2	.1	2.0	13.1	1.1	24.0	.2	.2	39.0
1921	8.6	4.3	.7	.4	.2	.6	1.2	16.0	1.0	35.4	------	.1	52.9
1922	10.2	4.9	.8	.1	.3	1.0	.1	17.5	.8	26.7	(2)	.1	45.2

Division of Crop and Livestock Estimates.

[1] Includes all other causes.
[2] Less than 0.05 per cent.

TABLE 298.—*Cotton: Percentage reduction from full yield per acre due to boll weevil, as reported by crop reporters, calendar years, 1910–1922.*

State.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
North Carolina												3. 58	12. 27
South Carolina						0. 02	0. 02	0. 01	0. 07	3. 00	13. 26	31. 48	40. 48
Georgia				0. 10		. 28	3. 44	9. 06	10. 73	19. 36	30. 56	45. 12	44. 28
Florida			0. 30	11. 80		13. 14	20. 98	27. 07	23. 85	40. 46	32. 10	27. 62	32. 50
Tennessee				. 10	0. 08	. 04	1. 23	1. 74	. 37	. 17	. 57	7. 21	8. 84
Alabama	0. 05	0. 20	1. 50	4. 80	6. 02	16. 16	27. 91	28. 88	12. 14	28. 77	36. 03	32. 39	25. 51
Mississippi	14. 66	5. 10	18. 00	33. 90	24. 14	24. 68	31. 73	22. 22	10. 41	19. 56	32. 25	30. 38	27. 65
Louisiana	40. 80	11. 40	13. 70	25. 10	17. 66	19. 85	24. 31	11. 89	9. 79	24. 84	25. 99	34. 80	24. 61
Texas	6. 52	. 90	2. 80	6. 80	7. 86	16. 28	18. 53	7. 28	4. 43	13. 96	19. 90	33. 66	16. 25
Oklahoma	1. 27	. 20	. 50	. 40	. 79	2. 70	3. 70	4. 35	1. 30	1. 48	8. 81	41. 36	25. 00
Arkansas	7. 23	2. 00	2. 40	2. 80	2. 93	4. 60	7. 49	8. 96	3. 14	4. 79	9. 41	21. 84	18. 15
U. S. average [1]	5. 30	1. 28	3. 26	6. 69	5. 91	9. 93	13. 36	9. 34	5. 83	13. 20	19. 95	30. 98	24. 17

Division of Crop and Livestock Estimates.

[1] Average is weighted and includes cotton States in which there was no damage by boll weevil.

TABLE 299.—*Cotton: Area and yield per acre in undermentioned countries, 1909–1923.*

Country.	Area.					Average yield per acre.				
	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24	Average 1909–1913.	1920–21	1921–22	1922–23	1923–24
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	34, 152	35, 878	30, 509	33, 036	37, 420	182	179	125	141	129
India	22, 503	21, 340	18, 451	21, 154	21, 845	76	67	97	98	
Egypt	1, 743	1, 897	1, 341	1, 868	1, 649	398	315	321	299	352
China [1]		4, 300	4, 284	3, 947						
Brazil		805	1, 420	1, 512			219	170	175	
Russia, Asiatic	1, 490	374	296	174	541	306	74	70	152	
Mexico		265	230	242	[2] 279					
Chosen (Korea)	[3] 146	359	362	370	378	57	134	122	133	140
Uganda	58	238	170	334		169	137	88	107	
Peru		163	161							
Anglo-Egyptian Sudan		85	69				133	138		
Argentina	6	59	39	[2] 62		243	200	200		
Total countries reporting, 1909–1922	60, 098	60, 145	51, 168	56, 998						
Estimated world total	67, 298	66, 707	58, 356	63, 995						

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Data for crop year as given at the head of the table are for crops harvested between August 1 and July 31 of the following year. This applies to both northern and southern hemispheres.

[1] Estimates by the Chinese Mill Owners' Association, which represent the most important cotton growing areas where the commercial crop is grown.

[2] From an unofficial source.

[3] Average for 4 years.

TABLE 300.—*Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909–1923.*

NORTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24, preliminary.
NORTH AMERICA.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
United States [1]	13,033,225	11,302,375	12,040,532	11,420,763	13,439,603	7,953,641	9,761,817	10,081,000
Mexico	193,000	[2] 135,000	[2] [3] 203,000	[2] [3] 199,000	[2] [3] 188,000	147,302	178,243	138,000
Total North American countries reporting 1909–1922	13,226,235	11,437,375	12,243,532	11,619,763	13,627,603	8,100,943	9,940,060	
SOUTH AND CENTRAL AMERICA AND WEST INDIES.								
Colombia		5,753	6,270					
Venezuela	10,000							
Guatemala	[4] 144					215	646	
Dutch West Indies	[5] 161	180	256	184	202	45		
Haiti	[6] 8,910	6,005	7,393	[7] 15,229	[7] 9,132	[7] 21,553	[7] 15,000	
Dominican Republic [7]	[6] 1,066	304	239	411	150	405		
Porto Rico	[4] 1,319	343	368	2,201	1,400	920	1,046	
St. Croix (U. S. Virgin Islands) [7]	519	280	14	94	61			
British West Indies:								
Antigua	246	125	165	196	79	63		
Montserrat	657	857	917	1,147	826	732	941	
St. Kitts-Nevis	1,347	1,088	1,186	1,158	1,615	732	885	
Grenada	703	507	644	785	688			
St. Vincent	1,026	768	988	1,161	1,363	523	705	
Barbadoes	1,061	403	238	211	185	419		
Jamaica [7]	71							
Trinidad and Tobago [7]	19			3	103			
Virgin Islands [7]	81	27	59	71				
Total Central and South American countries and West Indies reporting 1909–1922	13,259	9,061	10,852	20,896	14,336	24,460	18,577	
EUROPE.								
Italy	5,212						4,603	
Yugoslavia					1,037	798	858	
Greece	[4] 12,614	6,189	8,063	10,224				
Bulgaria	[8] 842	761	1,163	993	1,212	1,840	3,600	1,799
Malta	433	269	263	287	238	485	167	98
Spain								1,088
Russia, European (Northern Caucasia)	[9] 680							
Turkey, European [8]	[4] 10,000							
Total European countries reporting 1909–1922	1,275	1,030	1,426	1,280	1,450	2,325	3,767	

[1] Linters not included.
[2] From an unofficial source.
[3] Laguna District and Lower California only.
[4] For one year.
[5] Average for 4 years.
[6] Average for 3 years.
[7] Exports.
[8] Pre-war territory.
[9] Average for 2 years.

TABLE 300.—*Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909–1923*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Average 1909-1913.	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24, preliminary.
AFRICA.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Algeria	[6] 1,370	904	----------	371	1,107	293	272	795
Dahomey	664	[7] 472	[7] 1,621	616	[7] 668	[7] 1,946	[7] 1,273	----------
French Guinea [7]	[4] 230	8	3	46	177	114	172	----------
Ivory Coast [7]	[4] 28	683	2,002	1,551	951	94	109	----------
French Sudan [7]	[4] 235	----------	----------	----------	----------	----------	----------	----------
French Togo	[10] 2,312	2,057	719	5,050	4,552	4,603	4,612	----------
Italian Somaliland	[7] 510	[7] 261	[7] 415	----------	----------	----------	1,192	1,841
Eritrea	[7] 1,022	----------	[7] 319	[7] 395	----------	----------	692	----------
Egypt	1,453,000	1,304,000	999,000	1,155,000	1,251,000	902,000	[11] 1,170,000	1,213,000
Anglo-Egyptian Sudan	12,552	9,578	10,469	18,525	23,506	19,707	21,004	----------
Gold Coast	104	84	84	[7] 53	[7] 40	[7] 12	----------	----------
Kenya	519	167	167	83	83	418	460	----------
Nigeria	9,050	9,875	5,104	15,264	26,360	12,552	----------	----------
Uganda	20,338	23,006	30,569	30,568	68,071	31,381	[3] 75,000	----------
Total African countries reporting 1909–1922	1,489,643	1,339,966	1,044,550	1,211,439	1,349,008	990,263	1,272,630	----------
ASIA.								
Cyprus	1,938	1,293	1,135	1,097	2,024	1,444	1,255	----------
Turkey, Asiatic	133,000	----------	----------	----------	----------	[3] 30,000	[3] 50,000	[3] 60,000
India [12]	3,585,000	3,393,000	3,328,000	4,853,000	3,013,000	3,748,000	4,348,000	4,111,000
Ceylon	[4] 17	4	2	2	8	157	----------	----------
Russia, Asiatic	953,000	634,000	161,000	81,000	58,000	43,000	55,000	----------
Persia	136,000	86,000	[7] 89,000	94,000	105,000	----------	----------	----------
China [13]	3,473,000	2,092,000	3,053,000	2,599,000	1,883,000	1,517,000	2,048,000	[3] 2,200,000
Japanese Empire: Japan	4,704	4,186	3,926	3,976	4,784	3,447	----------	----------
Chosen	[5] 17,387	60,676	68,534	88,469	100,672	92,448	103,347	111,088
French Indo-China [7]	14,337	7,573	8,379	12,598	14,921	11,665	----------	----------
Siam [7]	3,653	734	1,121	1,778	372	----------	----------	----------
Afghanistan	[3] [4] 6,000	----------	----------	----------	----------	----------	----------	----------
North Borneo [7]	125	127	59	121	232	112	----------	----------
Total Asiatic countries reporting for 1909–1923	8,030,325	6,180,969	6,611,669	7,622,566	5,056,696	5,401,892	6,555,602	----------
Total Northern Hemisphere countries reporting 1909–1922	22,760,737	18,968,401	19,912,029	20,475,944	20,049,093	14,489,883	17,790,636	----------

[3] From an unofficial source.
[4] For one year.
[5] Average for 4 years.
[7] Exports.
[10] Territory formerly German Togo, and exports for 4 years only.
[11] The official estimate is 1,015,000 bales, but receipts into Alexandria and exports indicate a larger crop.
[12] The commercial crop of India according to figures compiled by the United States Department of Commerce, was 3,448,000 bales in 1921-22, 4,048,000 bales in 1922-23 and 3,811,000 bales in 1923-24.
[13] Official estimates which include the most important cotton producing provinces where the commercial crop is grown. Cotton grown in other provinces is used for home hand loom consumption. Various estimates made from time to time of the total production of China range from 2,000,000 to 7,000,000 bales but are considered unreliable. The commercial crop for China, according to figures compiled by the United States Department of Commerce, was 1,175,000 bales for 1921-22, 1,300,000 bales for 1922-23, and 1,450,000 bales for 1923-24.

TABLE 300.—*Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909–1923*—Continued.

SOUTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24, preliminary.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Peru	110,000	125,104	141,533	154,774	163,732	156,814	[3] 137,000	.....
Ecuador	.....	.....	.....	.....	.....	[3] 12,000	.....	.....
Brazil	[3] 322,000	344,597	338,743	505,830	369,841	505,000	552,857	.....
Paraguay	.....	115	460	460	1,200	1,500	.....	.....
Argentina	[4] 3,045	16,142	16,297	16,450	24,650	16,130	.....	.....
Belgian Congo	.....	1,245	2,075	3,459	4,151	4,520	4,603	.....
Tanganyika Territory	[4] 7,971	.....	3,462	3,410	2,402	6,132	6,004	.....
Nyasaland	4,536	5,128	2,107	1,651	2,900	3,285	4,601	5,439
Union of South Africa	76	592	1,599	2,290	2,245	1,778	3,138	.....
Angola [7]	510	456	1,058	904	2,349	2,067	.....	.....
Mozambique [7]	766	954	991	954	997	.....	.....	.....
Dutch East Indies	13,981	10,141	9,642	10,769	14,046	.....	.....	.....
French establishments in Oceania	168	.....	.....	.....	.....	.....	.....	.....
New Hebrides	[4 7] 303	[7] 2,121	[7] 2,219	[7] 2,282	1,796	3,124	.....	.....
Australia	91	53	71	19	656	2,720	7,531	.....
Total Southern Hemisphere countries reporting 1909–1922	436,703	475,474	484,053	664,554	539,374	[5] 9,597	705,127	.....
Total all countries reporting 1909–1922	23,197,440	19,443,875	20,396,082	21,140,498	20,588,467	15,159,480	18,495,763	.....
Estimated world total	23,580,000	19,675,000	20,613,000	21,384,000	20,875,000	15,330,000	18,705,000	19,125,000

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Bales of 478 pounds net. Data for crop year as given at the head of the table are for crops harvested between August 1 and July 31 of the following year. This applies to both northern and southern hemisperes.

[3] From an unofficial source. [4] For 1 year. [5] Average for 4 years. [6] Average for 3 years. [7] Exports.

TABLE 301.—*Cotton: World production, 1900–1923.*

Year beginning Aug. 1.	Production in countries reporting all years, 1900–1923.	Production as far as reported.	Estimated world totals (preliminary).	Three principal producing countries.		
				United States	India.	Egypt.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
1900–1901	14,692,623	14,809,578	15,931,000	10,123,027	2,471,000	1,126,000
1901–02	14,046,282	14,226,730	15,292,000	9,509,745	2,297,000	1,320,000
1902–03	15,503,888	16,823,334	16,948,000	10,630,945	2,818,000	1,210,000
1903–04	14,795,269	16,185,114	16,253,000	9,851,129	2,645,000	1,349,000
1904–05	19,029,776	20,007,125	20,079,000	13,438,012	3,172,000	1,308,000
1905–06	15,834,191	16,856,569	16,925,000	10,575,017	2,859,000	1,235,000
1906–07	20,187,593	21,259,290	21,357,000	13,273,809	4,129,000	1,440,000
1907–08	16,196,535	17,357,753	17,458,000	11,107,179	2,613,000	1,499,000
1908–09	18,942,894	21,144,006	21,267,000	13,241,799	3,090,000	1,399,000
1909–10	16,422,785	19,289,657	19,329,000	10,004,949	3,998,000	1,036,000
1910–11	18,029,374	21,873,607	21,915,000	11,608,616	3,254,000	1,555,000
1911–12	21,493,861	25,322,333	25,356,000	15,692,701	2,730,000	1,530,000
1912–13	20,620,689	24,994,921	25,043,000	13,703,421	3,702,000	1,554,000
1913–14	21,756,976	26,214,631	26,259,000	14,156,486	4,239,000	1,588,000
1914–15	23,748,650	28,556,341	28,687,000	16,134,930	4,359,000	1,337,000
1915–16	17,328,125	17,605,635	20,689,000	11,191,820	3,128,000	89,000
1916–17	17,988,805	19,768,309	19,845,000	11,449,930	3,759,000	1,048,000
1917–18	17,250,025	19,598,564	19,675,000	11,302,375	3,393,000	1,304,000
1918–19	17,224,909	20,556,648	20,613,000	12,040,532	3,328,000	999,000
1919–20	18,390,278	21,319,924	21,384,000	11,420,763	4,853,000	1,155,000
1920–21	18,510,812	20,795,387	20,875,000	13,439,603	3,013,000	1,251,000
1921–22	13,481,953	15,265,137	15,330,000	7,953,641	3,748,000	902,000
1922–23	16,236,474	18,560,030	18,705,000	9,761,817	4,348,000	[1] 1,170,000
1923–24	.....	17,925,148	19,125,000	10,081,000	4,111,000	1,213,000

Division of Statistical and Historical Research. Bales of 478 pounds net.

[1] The official estimate is 1,015,000 bales, but receipts into Alexandria and exports indicate a larger crop.

TABLE 302.—*Cotton: Estimated monthly marketings by farmers, 1912–1922.*

Year beginning Aug. 1.	Percentage of year's sales.[1]											
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Season.
1912–13	------	17.2	25.8	20.3	12.8	8.0	5.2	4.5	2.6	1.5	1.1	[2] 1.0	100
1913–14	------	18.2	24.4	19.7	13.3	8.3	5.3	4.4	2.7	1.5	1.2	[3] 1.0	100
1914–15	1.2	6.8	14.8	18.0	16.1	11.0	8.3	7.7	6.1	2.5	[3] 7.5	------	100
1915–16	2.7	11.3	19.3	20.4	16.4	8.4	5.4	5.2	3.9	3.6	[3] 3.4	------	100
1916–17	3.9	14.6	23.0	21.6	15.0	6.4	4.0	3.9	3.0	2.5	1.6	.5	100
1917–18	2.5	11.3	23.0	22.7	16.2	8.2	5.8	4.5	2.6	1.3	1.0	.9	100
1918–19	3.3	10.9	18.1	16.4	13.6	5.4	4.4	4.6	4.6	7.5	6.8	4.4	100
1919–20	1.4	9.5	21.0	22.2	17.4	8.8	5.6	4.9	3.2	2.7	1.7	1.6	100
1920–21	3.1	10.0	16.2	15.7	11.0	6.4	5.6	6.0	6.7	6.9	6.8	5.6	100
1921–22	3.6	14.0	22.3	17.1	12.1	5.9	4.3	4.6	4.6	5.9	3.0	2.6	100
1922–23	5.2	16.8	25.3	19.8	12.8	5.9	4.4	3.7	2.0	1.0	1.5	1.6	100
Average	2.5	12.8	21.2	19.4	14.2	7.5	5.3	4.9	3.8	3.4	3.2	1.8	100

Division of Crop and Livestock Estimates.

[1] As reported by about 7,500 cotton growers, supplemented by records of State weighers, cooperative associations, and cotton dealers.
[2] Includes August.
[3] Includes July.

TABLE 303.—*Cotton: International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*
Brazil	1	83	(1)	114	(1)	90	------	157
British India	60	1,966	24	3,052	130	2,240	73	2,447
Egypt	(1)	1,442	------	829	(1)	993	(1)	[2] 1,343
Persia	(1)	109	2	5	[3] 1	[3] 8	------	------
Peru	(1)	87	2	160	------	168	------	184
United States	215	9,008	628	6,359	291	6,678	390	6,307
PRINCIPAL IMPORTING COUNTRIES.								
Austria	------	------	55	(1)	116	[3] 1	[3] 122	[3] 3
Austria-Hungary	906	12	------	------	------	------	------	------
Belgium	496	159	689	221	428	227	283	64
Canada	137	------	241	------	182	------	232	(1)
China	43	240	189	105	469	170	497	235
Czechoslovakia	------	------	[3] 293	[3] 2	423	8	355	23
France	1,435	316	1,083	151	976	100	1,213	112
Germany	2,258	232	691	3	[3] 1,533	[3] 76	1,314	160
Hungary	------	------	(1)	------	[3] 4	------	[3] 5	------
Italy	896	(1)	825	1	728	3	820	2
Japan	1,405	------	2,176	------	2,420	------	[3] 2,389	(3)
Netherlands	277	145	124	8	120	2	117	2
Norway	18	------	12	------	7	------	11	------
Poland	------	------	106	------	[3] 158	------	[3] 222	(1)
Russia	886	(1)	------	------	[3] 2	------	[3] 1	------
Spain	382	1	375	3	380	4	382	1
Sweden	93	1	107	[4]	59	1	84	------
Switzerland	113	------	97	------	114	------	99	------
United Kingdom	4,164	------	3,457	------	2,137	------	2,823	------
Other countries	220	155	198	237	166	250	167	228
Total	14,005	13,956	11,374	10,254	10,844	11,019	11,599	11,268

Division of Statistical and Historical Research. Official sources except where otherwise noted. Bales of 500 pounds gross weight or 478 pounds net. The figures for cotton refer to ginned and unginned cotton and linters, but not to mill waste, cotton batting, scarto (Egyptian and Soudan). Wherever unginned cotton has been separately stated in the original reports it has been reduced to ginned cotton in this statement at the ratio of 3 pounds unginned to 1 pound ginned.

[1] Less than 500 bales.
[2] International Institute of Agriculture.
[3] Eight months, May–December.

TABLE 304.—*Cotton: Farm price per pound, 1st of month, United States, 1908–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1908–09	10.3	9.4	9.0	8.7	8.7	8.4	9.0	9.0	9.1	9.6	10.1	10.3	8.9
1909–10	11.3	11.7	12.6	13.7	13.9	14.6	14.0	14.0	14.1	14.0	14.2	13.9	13.8
1910–11	14.3	14.4	13.3	14.0	14.1	14.4	14.3	13.9	13.9	14.2	14.6	14.4	14.0
1911–12	13.2	11.8	10.2	8.9	8.8	8.4	9.0	9.8	10.1	10.9	11.0	11.2	9.4
1912–13	12.0	11.3	11.2	10.9	11.9	12.2	11.9	11.8	11.8	11.6	11.5	11.6	11.6
1913–14	11.5	11.8	13.3	13.0	12.2	11.7	11.9	12.6	11.9	12.2	12.4	12.4	12.4
Av. 1909–1913	12.5	12.2	12.1	12.1	12.2	12.3	12.2	12.4	12.4	12.6	12.7	12.7	12.2
1914–15	12.4	8.7	7.8	6.3	6.8	6.6	7.4	7.4	8.1	9.1	8.6	8.6	7.2
1915–16	8.1	8.5	11.2	11.6	11.3	11.4	11.5	11.1	11.5	11.5	12.2	12.5	11.4
1916–17	12.6	14.6	15.5	18.0	19.6	17.1	16.8	15.9	18.0	18.9	20.2	24.7	17.7
1917–18	24.3	23.4	23.3	27.3	27.7	28.9	29.7	30.2	31.8	28.5	27.4	28.6	27.7
1918–19	27.8	32.2	31.8	29.3	27.6	28.7	24.9	24.0	24.5	26.0	29.5	31.1	28.2
1919–20	32.5	30.3	31.3	36.5	35.6	35.9	36.2	36.2	37.3	37.7	37.2	37.4	35.5
1920–21	36.8	31.1	25.5	19.4	13.9	11.5	11.8	10.3	9.4	9.4	9.8	9.6	15.8
Av. 1914–1920	22.1	21.3	20.9	21.2	20.4	20.0	19.8	19.3	20.1	20.2	20.7	21.8	20.5
1921–22	9.8	12.6	19.8	17.7	16.2	16.3	15.5	15.9	16.0	15.9	18.7	20.4	17.0
1922–23	20.7	21.1	20.0	22.4	23.8	24.5	25.9	27.7	28.4	26.9	25.6	26.2	23.9
1923–24	23.5	24.1	27.2	28.8	31.0	-----	-----	-----	-----	-----	-----	-----	-----

Division of Crop and Livestock Estimates.

TABLE 305.—*Cotton: Farm price per pound, December 1, by States, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Virginia	9.0	13.2	13.8	9.0	12.0	13.1	12.2	7.3	11.4	19.4	27.8	26.5	35.0	15.0	20.3	16.4	23.0	32.0	104.00
North Carolina	9.0	13.9	14.1	8.8	12.2	12.6	12.3	6.9	11.2	19.4	27.7	26.4	35.2	14.5	20.2	16.4	24.5	30.8	89.32
South Carolina	8.8	14.1	14.2	8.8	12.4	12.7	12.4	6.9	11.3	19.6	28.4	27.6	35.7	14.5	20.6	16.0	24.3	32.0	89.84
Georgia	8.7	14.2	14.2	8.9	12.4	12.8	12.5	6.9	11.4	19.9	28.8	27.5	35.8	15.3	20.8	16.6	23.9	32.0	26.24
Florida	12.2	19.3	21.0	12.0	15.7	17.0	17.0	12.2	14.8	31.0	50.5	43.0	42.0	17.0	30.1	18.0	23.0	28.8	11.52
Alabama	8.7	14.2	14.2	8.8	12.1	12.7	12.4	6.7	11.1	19.5	28.0	27.0	34.8	15.0	20.3	16.0	24.0	31.8	28.94
Mississippi	8.8	14.3	14.4	9.2	12.3	12.6	12.6	6.8	11.5	20.5	28.5	27.8	37.5	15.3	21.1	16.6	24.1	32.5	28.92
Louisiana	8.7	13.7	14.4	8.9	11.5	11.7	12.0	6.9	11.2	19.1	26.7	27.5	35.0	14.2	20.1	15.0	24.0	30.3	37.88
Texas	8.5	13.6	14.0	8.6	11.5	11.5	11.8	6.8	11.1	19.4	26.7	28.2	35.0	13.2	20.1	16.1	23.5	30.4	44.38
Arkansas	8.8	14.0	14.4	8.9	12.3	11.6	12.2	6.6	11.6	19.6	28.2	27.8	36.4	13.3	20.5	16.1	23.6	31.9	30.94
Tennessee	9.0	13.6	14.1	8.8	12.4	12.7	12.3	6.4	11.3	19.5	27.3	26.7	33.5	13.0	19.7	16.0	24.5	32.0	28.80
Missouri	9.0	13.5	13.0	8.8	11.3	11.5	11.6	6.5	11.0	19.0	27.5	27.0	34.0	13.5	19.8	16.0	21.5	32.5	52.65
Oklahoma	8.2	13.0	13.3	8.0	11.3	11.4	11.4	6.5	11.3	19.0	26.5	25.5	35.2	10.5	19.2	15.4	23.0	29.6	26.64
California	-----	-----	13.3	7.5	12.5	13.0	-----	7.0	11.2	20.0	28.0	30.0	43.0	30.0	24.2	17.0	26.0	32.0	88.64
Arizona	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	48.0	51.0	30.0	-----	27.0	30.0	34.0	105.74
U. S.	8.7	13.9	14.1	8.8	11.9	12.2	12.2	6.8	11.3	19.6	27.7	27.6	35.6	13.9	20.4	16.2	23.8	31.0	41.98

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 306.—*Cotton, middling: Average spot price per pound at nine markets, 1914–1923.*

NORFOLK.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1914–15							7.89	8.33	9.38	9.12	8.97	8.43	
1915–16	8.77	10.30	11.87	11.39	11.76	11.92	11.53	11.63	11.76	12.61	12.83	13.04	11.62
1916–17	14.32	15.39	17.40	19.37	17.87	17.50	16.54	18.41	19.73	20.09	24.33	25.21	18.85
1917–18	25.33	21.92	26.99	28.35	29.18	30.4[illegible]0.36	32.42	32.99	29.26	28.95	29.59	28.82	
1918–19	31.51	33.28	30.23	27.59	27.63	26.23	24.38	25.27	25.87	28.32	31.18	33.18	28.74
1919–20	30.79	29.58	33.70	37.47	37.99	38.84	38.60	39.20	40.11	40.50	40.50	40.50	37.32
1920–21	37.00	29.06	21.23	17.39	14.46	14.85	12.89	11.37	11.20	11.60	10.76	11.31	16.93
1921–22	12.57	19.10	18.66	17.12	17.28	16.96	16.83	17.27	17.12	19.46	21.44	22.17	18.00
1922–23	21.50	20.99	22.48	25.40	25.44	27.59	28.75	30.08	28.13	26.22	27.89	25.96	25.67
1923–24	24.20	27.79	28.65	33.16	34.18								

AUGUSTA.

1914–15							7.90	8.27	9.40	9.17	8.92	8.56	
1915–16	8.55	10.22	11.88	11.47	11.73	11.95	11.49	11.66	11.74	12.54	12.65	12.79	11.56
1916–17	14.18	15.31	17.70	19.61	18.64	17.76	16.46	18.74	20.08	20.41	24.60	25.32	19.07
1917–18	24.59	21.63	26.93	28.42	29.37	31.16	31.15	33.44	33.08	28.61	30.45	29.34	29.01
1918–19	31.14	32.88	30.46	27.98	28.24	27.33	25.43	26.17	26.78	28.96	31.55	33.59	29.21
1919–20	30.72	29.41	34.72	38.34	38.46	39.67	38.48	40.04	41.06	41.44	42.13	40.65	37.93
1920–21	35.03	28.17	21.60	17.75	14.62	14.46	12.67	10.82	11.00	11.36	10.62	11.29	16.62
1921–22	12.83	19.49	18.74	16.93	17.17	16.74	16.60	17.09	16.88	19.30	21.49	22.38	17.97
1922–23	21.55	20.93	22.38	25.18	25.46	27.66	28.78	30.07	28.14	26.84	28.15	25.84	25.92
1923–24	24.63	27.76	28.75	33.16	34.28								

SAVANNAH.

1914–15							8.14	8.36	9.29	9.36	9.03	8.66	
1915–16	8.62	10.24	11.95	11.60	12.11	12.20	11.79	11.90	11.90	12.61	12.75	13.00	11.72
1916–17	14.21	15.40	17.54	19.69	19.27	18.45		18.82	20.15	20.62	24.83	25.95	
1917–18	25.20	21.87	27.05	28.26	29.28	31.12	30.94	32.53	33.42	31.50	30.24	30.10	29.29
1918–19	31.22	32.91	30.53	29.43	29.52	31.00	27.23	27.04	26.96	29.11	31.92	33.61	30.04
1919–20	31.64	29.66	34.56	38.45	38.91	39.89	39.43	40.31	41.60	41.53	41.74	40.87	38.22
1920–21	34.69	28.74	22.12	18.38	15.68	15.62	13.95	11.75	11.48	11.83	10.91	11.31	17.20
1921–22	12.74	19.64	19.30	17.17	17.39	17.06	16.72	17.36	17.03	19.39	21.52	22.09	18.12
1922–23	21.29	20.88	22.37	25.19	25.61	27.58	28.75	30.11	28.16	26.44	28.29	25.74	25.87
1923–24	24.45	27.85	28.77	33.09	34.18								

MONTGOMERY.

1914–15							7.70	8.04	9.04	8.82	8.70	8.38	
1915–16	8.42	10.02	11.74	11.27	11.65	11.75	11.32	11.37	11.52	12.28	12.46	12.69	11.37
1916–17	13.92	15.21	17.43	19.34	18.33	17.78	16.81	18.64	19.88	20.14	24.06	24.82	18.86
1917–18	24.67	21.47	26.98	28.43	29.49	31.28	31.30	33.36	33.88	29.48	29.80	29.63	29.15
1918–19	29.60	32.39	30.24	28.56	28.19	28.48	27.00	25.98	26.81	28.54	31.10	33.36	29.19
1919–20	30.68	29.20	34.26	38.16	38.26	39.29	38.39	39.41	40.90	40.67	40.88	40.15	37.52
1920–21	36.38	27.84	21.24	17.97	14.40	13.86	12.32	10.39	10.53	10.89	10.09	10.53	16.37
1921–22	11.89	18.73	18.46	16.68	16.92	16.46	16.18	16.55	16.15	18.66	21.08	22.05	17.48
1922–23	21.28	20.17	21.75	24.86	25.02	27.05	28.61	29.81	27.85	25.97	27.86	25.70	25.49
1923–24	24.23	27.61	28.68	32.87	34.00								

MEMPHIS.

1914–15							7.87	8.26	9.24	9.17	8.99	8.69	
1915–16	8.91	10.32	12.15	11.55	12.12	12.29	11.79	11.82	12.00	12.81	13.07	13.15	11.83
1916–17	14.35	15.56	17.40	19.60	18.96	17.88	17.00	18.17	19.97	20.34	24.02	25.75	19.06
1917–18	25.96	22.97	27.54	28.91	29.57	31.07	31.36	32.82	33.57	30.08	30.00	30.00	29.49
1918–19	30.98	33.89	31.56	30.17	29.42	29.29	27.18	26.86	26.90	29.06	32.16	33.80	29.11
1919–20	33.48	30.96	35.94	41.17	39.88	40.35	39.22	40.04	41.69	41.31	40.73	39.60	38.70
1920–21	36.35	31.00	21.68	18.28	14.75	14.46	13.48	11.65	11.25	11.63	11.06	11.82	17.28
1921–22	12.17	19.46	19.71	18.27	18.15	17.80	17.01	17.28	17.00	19.19	21.79	22.72	18.38
1922–23	22.07	21.19	22.09	25.31	25.80	27.68	28.74	30.63	29.02	26.89	28.58	26.51	26.21
1923–24	24.08	27.73	29.28	33.54	34.67								

TABLE 306.—*Cotton, middling: Average spot price per pound at nine markets, 1914–1923*—Continued.

LITTLE ROCK.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1914–15							7.67	8.15	9.04	9.07	8.89	8.58	
1915–16	8.61	10.08	12.32	11.68	12.15	12.28	11.94	11.88	12.25	12.80	12.96	13.07	11.84
1916–17	14.27	15.26	17.33	19.[illegible]	18.80	17.70	16.81	17.89	19.71	19.99	23.90	25.42	18.89
1917–18	25.49	22.14	26.72	28.25	29.55	31.02	30.96	32.53	33.32	30.00	29.28	29.35	29.05
1918–19	30.73	33.99	31.70	30.11	29.37	28.20	26.45	26.83	26.40	28.33	31.34	33.55	29.75
1919–20	31.73	30.31	35.32	40.08	39.94	39.98	39.10	40.19	42.57	41.45	40.31	39.60	38.38
1920–21	34.89	28.28	21.38	18.23	14.96	14.45	13.35	11.49	10.63	11.35	10.68	10.58	16.69
1921–22	11.81	19.60	19.75	18.12	17.84	17.57	16.90	16.89	16.87	18.90	21.17	22.07	18.12
1922–23	21.47	20.76	21.80	25.22	25.53	27.15	28.46	30.02	28.24	26.41	27.88	26.39	25.78
1923–24	24.20	27.64	29.10	33.55	34.41								

DALLAS.

1914–15							7.87	8.25	9.15	8.71	8.57	8.25	
1915–16	8.56	10.17	11.72	11.13	11.73	11.84	11.37	11.63	11.78	12.47	12.72	13.04	11.51
1916–17	14.14	14.83	16.81	19.18	17.63	17.17	15.75	17.77	19.09	19.58	24.17	25.04	18.43
1917–18	24.86	21.88	26.16	27.46	28.53	30.74	30.71	32.56	31.32	28.85	29.76	28.79	28.47
1918–19	31.09	33.34	30.89	28.78	29.33	27.72	25.84	25.71	27.02	29.75	32.10	34.16	29.64
1919–20	31.05	30.60	36.65	40.58	41.11	42.08	41.29	42.75	42.78	40.60	39.64	38.30	38.95
1920–21	32.74	26.40	20.69	17.08	13.70	13.63	12.16	10.64	10.53	11.20	10.23	10.50	15.79
1921–22	12.11	19.25	19.17	17.10	17.12	16.75	16.44	16.93	16.69	19.08	21.37	22.05	17.84
1922–23	21.19	20.14	21.67	24.75	24.70	26.68	27.86	29.88	27.79	25.87	27.72	25.34	25.31
1923–24	23.49	27.05	28.51	32.92	33.94								

HOUSTON.

1914–15							8.33	8.80	9.82	9.21	9.06	8.68	
1915–16	9.04	10.56	12.11	11.62	12.27	12.36	11.82	12.09	12.27	12.99	13.26	13.60	12.00
1916–17	14.79	15.39	17.42	19.80	18.10	17.64	16.06	18.18	19.43	20.13	24.60	25.54	18.92
1917–18	25.67	22.62	26.62	27.87	28.77	31.25	30.91	32.94	31.80	28.06	30.91	28.75	28.85
1918–19	31.26	33.70	32.05	30.01	30.26	28.56	27.00	26.43	27.33	30.18	32.04	34.24	30.26
1919–20	31.65	31.36	36.88	40.79	40.74	41.72	39.96	41.52	42.33	40.67	39.54	38.10	38.77
1920–21	32.94	27.33	20.98	17.56	14.16	13.95	12.62	10.95	10.89	11.85	11.02	11.69	16.33
1921–22	13.06	20.02	19.64	17.65	17.73	17.20	17.05	17.52	17.23	19.67	22.18	22.51	18.46
1922–23	21.59	20.69	22.20	25.33	25.45	27.51	28.71	30.54	28.59	26.65	28.42	25.62	25.94
1923–24	24.23	27.78	29.00	33.46	34.63								

GALVESTON.

1915–16	9.15	10.59	12.20	11.66	12.30	12.39	11.89	12.14	12.30	12.98	13.36	13.71	12.06
1916–17	14.77	15.48	17.48	19.82	18.43	17.79	16.30	18.31	19.63	20.18	24.58	25.99	19.06
1917–18	25.70	22.66	26.82	28.07	29.11	31.28	31.10	33.06	32.23	28.40	30.89	29.37	29.06
1918–19	31.56	34.19	32.25	30.30	30.64	29.45	28.26	26.94	27.63	30.59	32.87	34.62	30.78
1919–20	31.87	31.58	37.10	41.32	41.87	42.53	41.10	42.52	42.99	41.64	39.83	38.59	39.41
1920–21	33.78	28.15	21.98	18.10	15.00	14.38	12.99	11.76	11.47	12.01	11.27	11.80	16.89
1921–22	13.33	20.33	20.05	17.99	17.92	17.32	17.10	17.59	17.39	19.75	22.23	22.67	18.64
1922–23	21.79	20.77	22.28	25.37	25.48	27.54	28.81	30.52	28.63	26.75	28.57	25.87	26.03
1923–24	24.44	27.80	29.11	33.62	34.70								

Division of Statistical and Historical Research. Compiled from daily reports of the Cotton Division.

TABLE 307.—*Cotton, middling: Average spot price per pound at New Orleans and New York, 1900–1923.*

NEW ORLEANS.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1900–1901	------	10.39	9.57	9.48	9.50	9.52	9.20	8.49	8.15	7.69	8.05	8.33	------
1901–2	8.28	8.15	7.99	7.32	7.93	7.88	8.08	8.54	9.13	9.39	9.15	8.94	8.40
1902–3	8.43	8.43	8.22	7.82	8.14	8.66	9.36	9.73	10.05	11.14	12.71	13.02	9.64
1903–4	12.70	10.72	9.66	10.72	12.52	14.06	14.38	15.07	14.45	13.41	11.38	10.86	12.49
1904–5	10.59	10.54	9.80	9.50	7.48	6.83	7.45	7.45	7.39	7.90	8.87	10.61	8.70
1905–6	10.48	10.26	10.16	11.28	11.88	11.56	10.67	10.84	11.28	11.33	10.99	10.96	10.97
1906–7	9.99	9.24	10.76	10.39	10.53	10.46	10.49	10.83	10.79	11.85	12.81	12.89	10.92
1907–8	13.13	12.41	11.19	10.84	11.54	11.84	11.63	10.93	10.20	10.86	11.59	10.81	11.41
1908–9	9.92	9.11	8.92	8.97	8.78	9.34	9.42	9.39	10.03	10.59	11.04	12.13	9.80
1909–10	12.28	12.66	13.48	14.40	14.96	15.23	14.88	14.74	14.89	14.64	14.85	14.93	14.33
1910–11	14.92	13.49	14.21	14.50	14.85	14.95	14.62	14.54	14.70	15.48	15.26	14.30	14.65
1911–12	11.96	11.29	9.61	9.35	9.17	9.53	10.31	10.65	11.61	11.72	12.07	12.93	10.85
1912–13	12.07	11.37	10.95	12.15	12.81	12.58	12.51	12.45	12.44	12.29	12.44	12.34	12.21
1913–14	12.02	13.11	13.73	13.26	12.98	12.93	12.90	12.95	13.11	13.36	13.79	13.34	13.12
Av. 1909–1913	12.65	12.38	12.40	12.73	12.95	13.04	13.04	13.07	13.30	13.55	13.68	13.57	13.03
1914–15	(1)	[2] 8.42	7.02	7.43	7.18	7.87	8.01	8.34	9.43	9.04	9.12	8.71	------
1915–16	8.94	10.40	11.95	11.50	11.89	12.04	11.45	11.73	11.88	12.61	12.80	13.06	11.68
1916–17	14.26	15.27	17.24	19.45	18.34	17.33	17.14	17.94	19.50	20.06	24.17	25.41	18.84
1917–18	25.10	21.68	26.76	28.08	29.07	31.07	30.92	32.76	33.05	28.92	30.71	29.50	28.97
1918–19	30.23	33.28	31.19	29.75	29.44	28.84	26.97	26.84	26.70	29.36	32.09	33.93	29.88
1919–20	31.38	30.38	35.30	39.58	39.89	40.28	39.40	40.69	41.41	40.32	40.49	39.41	38.21
1920–21	34.03	27.35	20.97	17.65	14.64	14.53	12.85	11.08	11.17	11.80	11.03	11.49	16.55
Av. 1914–1920	------	20.97	21.49	21.92	21.49	21.71	20.96	21.34	21.88	21.73	22.92	23.07	------
1921–22	12.78	19.35	18.99	17.27	17.16	16.53	16.36	16.74	16.80	19.31	21.68	22.01	17.92
1922–23	21.55	20.74	22.05	25.34	25.48	27.51	28.78	30.43	28.42	26.63	28.61	25.73	25.94
1923–24	24.22	27.71	29.18	33.68	34.88	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Prior to February, 1915, compiled from quotations in Market Reports of the New York Cotton Exchange, except Sept. 23 to Nov. 16, 1914, when the exchange was closed, quotations for which time were taken from the New York Commercial and Financial Chronicle; from February, 1915, compiled from daily reports of the Cotton Division.

[1] Market closed. [2] No quotations prior to Sept. 23. Average for 7 days' business.

NEW YORK.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1900–1901	9.85	10.57	10.18	9.89	10.10	10.32	9.52	8.62	8.35	8.15	8.50	8.47	9.38
1901–2	8.18	8.40	8.35	7.95	8.45	8.28	8.64	9.06	9.37	9.55	9.33	9.22	8.73
1902–3	8.97	8.96	8.77	8.45	8.64	8.95	9.65	10.08	10.44	11.46	12.40	12.74	9.96
1903–4	12.75	11.99	9.94	11.22	12.83	14.42	14.87	15.58	14.36	13.50	11.65	10.92	12.84
1904–5	10.82	11.02	10.26	10.00	7.90	7.17	7.75	8.03	7.91	8.26	9.05	10.96	9.09
1905–6	10.89	10.85	10.35	11.45	12.13	11.87	11.13	11.35	11.72	11.87	11.06	10.89	11.30
1906–7	10.31	9.77	10.93	10.77	10.71	10.86	11.04	11.20	11.12	12.04	13.02	13.11	11.24
1907–8	13.33	12.57	11.50	11.03	11.89	11.73	11.53	11.01	10.17	10.92	11.63	11.01	11.53
1908–9	10.29	9.39	9.26	9.40	9.23	9.67	9.82	9.77	10.49	11.31	11.51	12.65	10.23
1909–10	12.75	13.00	13.99	[3] 14.77	15.25	14.87	14.84	15.05	15.10	15.45	15.10	15.74	14.66
1910–11	16.27	13.96	14.48	14.77	15.07	14.90	14.30	14.51	14.87	15.80	15.48	13.99	14.87
1911–12	12.53	11.31	9.63	9.43	9.37	9.55	10.34	10.63	11.57	11.62	11.65	12.57	10.85
1912–13	12.04	11.73	11.12	12.36	13.01	13.07	12.80	12.61	12.29	11.98	12.25	12.26	12.29
1913–14	12.14	13.44	14.08	13.68	13.04	12.72	12.83	13.27	13.23	13.44	13.47	13.17	13.21
Av. 1909–1913	13.15	12.69	12.66	13.00	13.15	13.02	13.02	13.21	13.41	13.66	13.59	13.55	13.18
1914–15	(1)	(1)	(1)	[3] 7.67	7.53	8.28	8.54	[4] 9.01	10.25	9.81	9.68	9.22	------
1915–16	9.41	10.83	12.37	11.89	12.33	12.33	11.73	11.90	12.05	12.94	12.97	13.05	11.98
1916–17	14.64	15.79	17.99	19.92	18.29	17.59	15.90	18.46	20.38	20.74	25.33	26.30	19.28
1917–18	25.49	23.05	28.02	29.78	30.74	32.26	31.76	33.74	31.85	27.57	30.39	31.54	29.68
1918–19	33.88	35.09	32.42	29.69	30.22	29.10	26.27	27.74	28.82	30.58	32.96	35.33	31.01
1919–20	32.10	30.60	34.98	39.40	39.19	39.26	38.77	41.20	42.30	41.25	39.27	41.20	38.29
1920–21	36.23	30.07	22.68	18.81	15.68	16.63	13.44	11.74	12.14	12.84	12.00	12.41	17.89
Av. 1914–1920	------	------	------	22.45	22.00	22.21	20.92	21.97	22.54	22.25	23.28	24.15	------
1921–22	13.79	19.95	19.63	18.01	18.30	17.94	17.90	18.32	18.06	20.75	22.10	22.27	18.92
1922–23	21.86	21.35	22.73	25.64	25.65	27.55	28.63	30.55	28.88	27.20	28.52	26.26	26.44
1923–24	25.20	29.06	30.06	34.73	35.92	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange.

[1] Cotton Exchange closed on account of the war.
[3] Cotton Exchange opened on Nov. 16. Quotations cover only half month.

TABLE 308.—*Cotton: Average closing prices per pound, New York, for future delivery, August, 1922–December, 1923.*

Month.	For delivery in—											
	Aug.[1]	Sept.[1]	Oct.	Nov.[1]	Dec.	Jan.	Feb.[1]	Mar.	Apr.[1]	May.	June.[1]	July.
1922–23.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
August	21.14	21.47	21.60	21.61	21.63	21.48	21.50	21.51	21.45	21.42	21.27	[1] 21.25
September	------	21.17	21.08	21.21	21.33	21.18	21.22	21.26	21.22	21.19	21.09	[1] 21.00
October	------	------	22.01	22.58	22.79	22.52	22.58	22.63	22.60	22.56	22.45	22.35
November	24.36	23.90	23.37	25.40	25.49	25.37	25.36	25.34	25.25	25.17	25.01	24.85
December	24.91	24.33	23.76	------	25.14	25.43	25.52	25.63	25.64	25.64	25.50	25.37
January	26.84	26.00	25.50	25.39	25.28	27.18	27.38	27.48	27.56	27.66	27.51	27.36
February	27.51	26.11	25.56	25.40	25.25	[2]25.06	27.97	28.52	28.63	28.74	28.44	28.13
March	28.56	26.80	26.24	25.91	25.70	25.42	------	30.73	30.42	30.44	30.01	29.59
April	26.70	25.55	24.97	24.74	24.51	24.22	24.13	[1]24.05	28.66	28.66	28.20	27.78
May	24.85	24.15	23.62	23.41	23.20	22.91	22.90	[2]22.89	------	26.57	26.22	25.72
June	26.44	25.16	24.49	24.23	23.94	23.66	23.63	23.61	23.57	[2]23.50	28.03	27.22
July	24.69	23.90	23.21	23.02	22.83	22.59	22.60	22.61	22.57	22.54	------	26.46
Av. Aug. 1–July 31	25.60	24.41	23.78	23.90	23.92	23.92	24.07	24.68	25.23	25.34	25.79	25.59
1923–24.												
August	24.36	24.38	23.93	23.89	23.86	23.59	23.62	23.65	23.62	23.60	23.62	23.50
September	------	27.74	28.07	27.88	27.79	27.35	27.34	27.34	27.30	27.28	27.01	26.77
October	27.30	26.44	29.03	29.18	29.12	28.61	28.63	28.64	28.66	28.68	28.34	28.09
November	31.37	29.24	28.14	33.53	34.19	33.72	33.82	33.92	33.96	34.01	33.71	33.45
December	31.51	29.30	28.42	28.04	35.19	34.62	34.80	34.99	35.06	35.16	34.74	34.32

Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange.

[1] Based on nominal quotations. [2] Largely nominal.

TABLE 309.—*Cotton: Average spot prices per pound in specified foreign markets, 1912–1923.*

LIVERPOOL, EGYPTIAN UPPERS-GOOD.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912	18.0	16.9	17.6	19.3	19.5	21.3	21.3	20.2	19.1	18.3	18.9	19.3	19.1
1913	19.9	20.1	20.2	20.3	20.2	19.7	19.0	18.8	20.0	20.2	20.0	19.5	19.8
1914	18.9	17.9	17.3	17.9	18.1	18.2	17.6	16.5	16.1	13.5	12.0	12.2	16.4
1915	12.2	12.8	14.0	15.5	14.5	14.4	13.8	14.1	15.4	18.1	17.9	18.6	15.1
1916	21.9	22.5	22.4	21.6	22.4	23.5	23.7	23.7	27.2	31.2	39.5	39.6	26.6
1917	39.7	41.9	44.5	50.5	52.0	55.4	60.3	60.9	52.0	46.7	51.6	54.4	50.8
1918	53.8	51.5	54.9	56.3	54.0	52.6	54.4	55.8	55.4	54.3	51.7	50.4	53.8
1919	50.3	50.0	49.3	48.3	48.3	48.4	46.4	48.8	48.8	53.4	67.0	70.3	52.9
1920	94.0	105.0	108.7	107.6	97.1	81.3	71.6	68.6	53.4	37.0	29.4	23.4	73.1
Average 1914–1920	41.5	43.1	44.4	45.4	43.8	42.0	41.1	41.2	38.3	36.3	38.5	39.3	41.2
1921	24.6	20.8	19.6	21.5	18.8	18.8	18.0	18.6	29.3	33.3	28.3	29.4	23.4
1922	28.8	27.4	28.4	26.8	28.1	29.7	29.4	28.1	27.4	27.3	30.7	31.2	28.6
1923	31.9	32.5	33.9	33.0	30.4	31.9	31.0	31.5	33.4	33.5	39.6	41.5	33.7

LIVERPOOL, NO. 1 OOMRAS, FULLY GOOD.[1]

1912	10.3	10.8	10.9	11.3	11.6	11.7	12.3	12.2	11.9	11.6	12.1	12.5	11.6
1913	12.7	12.8	12.7	12.5	12.2	11.9	11.8	11.6	12.9	12.9	12.8	12.5	12.4
1914	12.0	11.5	11.5	11.5	11.4	11.0	10.6	9.7	9.1	8.8	7.9	7.7	10.2
1915	8.5	8.4	8.5	9.2	8.9	9.1	8.9	9.1	9.7	10.9	10.7	11.9	9.5
1916	12.6	12.4	12.1	11.9	13.0	12.8	12.9	14.2	15.0	15.8	17.6	16.6	13.9
1917	16.9	17.3	20.2	21.0	22.1	31.2	33.4	34.2	31.9	36.9	37.6	37.2	28.3
1918	38.2	37.6	38.2	38.2	35.2	36.8	36.8	37.8	44.1	42.4	37.5	34.3	38.1
1919	35.3	32.6	27.7	28.9	30.1	32.4	32.2	30.7	29.0	30.5	32.1	32.0	31.1
1920	32.6	30.0	32.3	31.8	30.2	29.1	26.1	23.8	21.6	18.5	15.7	12.0	25.3
Average 1914–1920	22.3	21.4	21.5	26.8	21.6	23.9	23.0	22.8	22.9	23.3	22.7	21.7	22.4
1921	11.9	10.6	9.2	9.4	9.8	9.2	9.3	10.5	16.0	16.9	15.3	15.4	12.0
1922	15.3	14.9	15.4	16.0	15.7	18.9	19.7	19.8	18.8	18.3	20.6	20.5	17.9
1923	21.9	22.2	21.7	20.7	19.4	20.8	20.2	19.6	21.8	22.0	25.9	27.7	22.0

TABLE 309.—*Cotton: Average spot prices per pound in specified foreign markets, 1912–1923*—Continued.

ALEXANDRIA, EGYPT, EGYPTIAN UPPERS, GOOD.[2]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912	15.8	16.6	16.8	17.6	18.1	18.9	19.4	18.5	17.2	15.8	17.0	18.1	17.5
1913	18.6	18.7	19.0	19.4	19.0	18.5	18.2	17.8	18.5	18.6	18.6	18.0	18.6
1914	17.4	17.0	16.4	17.0	16.8	16.7	16.3	(3)	(3)	9.6	11.2	10.5	14.9
1915	11.1	11.9	13.0	14.8	13.2	13.1	12.5	12.6	(3)	(3)	16.2	(3)	13.1
1916	19.2	21.1	21.0	20.3	20.6	21.4	20.7	20.6	23.3	27.5	34.5	35.4	23.8
1917	35.1	37.3	39.6	48.7	49.3	51.7	60.1	45.1	29.6	32.4	35.6	38.5	41.9
1918	37.9	36.6	38.0	38.3	36.5	37.6	40.5	(3)	(3)	(3)	(3)	(3)	------
1919	(3)	(3)	(3)	(3)	(3)	(3)	(3)	47.1	42.6	45.6	60.5	71.9	------
1920	85.2	94.6	87.2	94.0	82.7	69.8	61.2	54.9	41.9	32.5	24.2	19.5	62.3
1921	19.9	18.1	16.8	16.3	15.3	14.2	14.9	14.9	25.7	30.9	26.0	27.3	19.7
1922	25.3	23.3	22.9	22.7	24.7	26.7	26.1	25.0	23.3	24.1	26.7	27.0	24.8

LIVERPOOL, AMERICAN MIDDLING.[4]

1912	11.16	11.90	12.34	13.09	13.08	13.37	14.46	13.88	13.55	12.59	13.82	14.31	13.12
1913	14.06	13.97	13.97	14.00	13.58	13.67	13.61	13.38	15.10	15.55	14.94	14.54	14.20
1914	14.34	14.25	14.28	15.02	15.20	15.71	14.74	13.23	12.22	10.53	9.25	8.93	13.14
1915	9.77	10.06	10.46	11.37	10.42	10.47	10.32	10.79	12.24	13.90	13.74	15.03	11.55
1916	15.99	15.61	15.48	15.47	16.77	16.47	15.94	17.54	18.99	20.69	23.05	22.16	17.85
1917	21.76	21.34	24.07	25.23	26.17	34.07	37.65	38.21	35.96	34.85	43.38	44.25	32.24
1918	46.16	45.88	47.19	46.52	42.28	43.89	43.09	45.26	48.44	46.46	43.97	42.30	45.12
1919	37.66	34.53	30.39	33.24	35.70	38.25	38.33	34.06	32.20	38.06	41.99	40.92	36.28
1920	43.61	41.61	45.16	44.17	42.51	44.48	41.83	38.31	31.33	24.41	19.18	14.74	35.94
Average 1914–1920	27.04	26.18	26.72	27.29	27.01	29.05	28.84	28.20	27.34	26.99	27.79	26.90	27.45
1921	15.32	12.71	11.78	12.07	12.53	11.66	11.94	13.34	20.70	20.85	18.46	18.84	15.02
1922	18.12	17.75	19.21	18.89	21.42	23.46	24.98	24.90	23.98	24.55	27.96	28.26	22.79
1923	30.64	30.93	31.42	30.29	28.43	31.53	29.28	28.18	31.99	31.96	35.74	30.00	31.37

Division of Statistical and Historical Research. Conversions at monthly average rates of exchange as quoted by International Institute of Agriculture Annual, 1921, and Federal Reserve Board.

[1] London Economist, average of weekly quotations.
[2] Monthly Agricultural Statistics, Ministry of Finance, Cairo, Egypt.
[3] No quotations.
[4] International Yearbook of Agricultural Statistics, 1921, p. 443. London Economist, 1922 and 1923. Average of weekly quotations.

COTTONSEED.

TABLE 310.—*Cottonseed: Production, 1874–1923.*

Year beginning Aug. 1.	Production.	Year beginning Aug. 1.	Production.	Year beginning Aug. 1.	Production.
	1,000 tons.		*1,000 tons.*		*1,000 tons.*
1874–5	1,687	1890–1	4,093	1907–8	4,952
1875–6	2,057	1891–2	4,274	1908–9	5,904
1876–7	1,969	1892–3	3,183		
1877–8	2,148	1893–4	3,579	1909–10	4,462
1878–9	2,268			1910–11	5,175
		1894–5	4,792	1911–12	6,997
1879–80	2,616	1895–6	3,416	1912–13	6,104
1880–1	3,039	1896–7	4,070	1913–14	6,305
1881–2	2,455	1897–8	5,253		
1882–3	3,266	1898–9	5,472	1914–15	7,186
1883–4	2,639			1915–16	4,992
		1899–1900	4,668	1916–17	5,113
1884–5	2,625	1900–1	4,830	1917–18	5,040
1885–6	3,045	1901–2	4,630		
1886–7	3,018	1902–3	5,092	1918–19	5,360
1887–8	3,291	1903–4	4,716	1919–20	5,074
1888–9	3,310			1920–21	5,971
		1904–5	6,427	1921–22	3,531
1889–1890	3,495	1905–6	5,060	1922–23	4,336
		1906–7	5,913	[1]1923–24	4,476

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

[1] Preliminary estimate by Department of Agriculture.

TABLE 311.—*Cottonseed: Production, and farm value, by States, 1919–1923.*

State.	Production, thousands of tons. Year beginning Aug. 1.					Total value, thousands of dollars. Year beginning Aug. 1.				
	1919	1920	1921	1922	1923 [1]	1919	1920	1921	1922	1923 [1]
Virginia	10	9	7	12	22	$740	$230	$220	$480	$1,012
North Carolina	368	410	344	378	453	27,340	10,550	11,420	15,600	21,744
South Carolina	633	720	334	218	353	47,460	16,620	11,510	9,230	17,703
Georgia	736	628	349	317	262	55,200	16,640	11,070	12,520	13,558
Florida	8	8	5	12	5	530	220	160	380	223
Alabama	316	294	257	366	266	23,020	7,840	7,890	13,310	13,074
Mississippi	427	397	361	489	273	28,100	9,570	10,330	14,940	13,746
Louisiana	132	172	124	152	162	8,660	4,490	3,400	4,760	6,723
Texas	1,379	1,934	978	1,433	1,905	82,640	41,350	27,430	45,370	79,724
Arkansas	393	540	354	452	275	24,880	12,400	9,990	14,910	13,035
Tennessee	138	145	134	174	98	9,210	3,700	4,090	6,680	4,861
Missouri	28	35	31	63	51	2,040	790	970	2,310	2,805
Oklahoma	452	594	214	279	275	27,130	11,210	5,300	8,780	11,399
All other	54	85	39	41	76	3,460	1,380	780	1,130	2,996
United States	5,074	5,971	3,531	4,336	4,476	340,470	136,990	104,560	150,400	202,603

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

[1] Preliminary estimate by Department of Agriculture.

TABLE 312.—*Cottonseed, and cottonseed products: Production, 1900–1923.*

Year ending July 31.	Cottonseed, crushed.	Crude cottonseed products.		
		Oil.	Cake and meal.	Hulls.
	Tons.	*Gallons.*	*Tons.*	*Tons.*
1899–1900	2,479,000	93,330,000	884,000	1,169,000
1900–1	2,415,000	96,610,000	845,000	1,139,000
1901–2	3,154,000	118,610,000	1,125,000	1,487,000
1902–3	3,269,000	122,910,000	1,165,000	1,541,000
1903–4	3,241,000	121,880,000	1,156,000	1,528,000
1904–5	3,345,000	133,820,000	1,360,000	1,213,000
1905–6	3,131,000	125,700,000	1,272,000	1,135,000
1906–7	3,844,000	153,760,000	1,563,000	1,393,000
1907–8	2,565,000	103,050,000	1,043,000	927,000
1908–9	3,670,000	146,790,000	1,492,000	1,330,000
1909–10	3,269,000	131,000,000	1,326,000	1,189,000
1910–11	4,106,000	167,970,000	1,792,000	1,375,000
1911–12	4,921,073	201,650,000	2,151,000	1,642,000
1912–13	4,579,508	185,750,000	1,999,000	1,540,000
Av. 1909–1913	4,109,116	166,632,000	1,752,000	1,415,000
1913–14	4,847,628	193,330,000	2,220,000	1,400,000
1914–15	5,779,665	229,260,000	2,648,000	1,677,000
1915–16	4,202,313	167,110,000	1,923,000	1,220,000
1916–17	4,479,176	187,688,000	2,225,000	969,000
1917–18	4,251,680	174,996,000	2,068,000	996,000
1918–19	4,478,508	176,711,000	2,170,000	1,137,000
1919–20	4,012,704	161,529,000	1,817,000	1,143,000
Av. 1914–1920	4,578,811	184,375,000	2,153,000	1,220,000
1920–21	4,069,166	174,558,000	1,786,000	1,256,000
1921–22	3,007,717	124,063,000	1,355,000	937,000
1922–23	3,241,557	133,723,000	1,437,000	944,000

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

TABLE 313.—*Cottonseed: Farm price per ton, 15th of month, United States, 1910–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
1910–11	------	$26.23	$26.86	$25.36	$25.65	$26.35	$25.61	$25.49	$26.12	$25.46	$23.38	$22.70	$25.41
1911–12	$20.45	18.09	16.73	16.69	16.70	16.57	16.81	18.21	18.62	19.21	19.24	19.04	17.13
1912–13	18.02	17.61	18.04	18.57	21.42	21.98	22.01	21.55	21.89	21.88	21.54	21.37	18.77
1913–14	20.24	21.07	22.01	22.46	23.48	22.70	23.37	23.60	24.17	23.56	23.62	22.78	22.14
Av. 1910–1913	19.57	20.75	20.91	20.77	21.81	21.90	21.95	22.21	22.70	22.53	21.94	21.47	20.86
1914–15	20.16	18.88	15.28	14.01	17.73	19.14	23.33	22.32	22.69	22.07	20.82	20.05	15.59
1915–16	20.14	20.98	33.73	34.01	35.54	36.85	36.75	36.56	38.13	37.91	35.79	36.06	30.25
1916–17	35.22	41.13	47.19	55.82	56.35	52.53	51.43	53.18	55.94	55.61	57.19	56.90	48.11
1917–18	56.61	57.58	65.02	69.38	68.29	67.51	66.95	68.27	68.08	68.16	66.03	64.11	64.04
1918–19	61.34	67.90	65.85	64.97	65.05	64.93	64.65	64.00	64.28	63.83	63.80	64.24	65.62
1919–20	66.23	62.13	66.95	72.65	69.07	69.88	69.34	67.18	68.71	69.88	66.16	61.64	67.87
1920–21	43.22	29.96	28.94	26.00	19.83	18.96	19.76	18.92	17.23	17.28	17.06	18.75	28.56
Av. 1914–1920	43.27	41.94	46.14	48.12	47.41	47.11	47.46	47.20	47.87	47.82	46.69	45.96	45.72
1921–22	22.06	27.19	31.06	29.15	28.78	29.24	30.17	32.72	40.79	40.21	37.71	36.92	29.25
1922–23	32.44	25.37	31.79	40.18	42.93	43.35	45.16	46.32	47.60	46.58	43.14	41.42	32.13
1923–24	37.47	40.88	40.90	45.92	45.54	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

COTTONSEED OIL.

TABLE 314.—*Cottonseed oil: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*
Brazil	624	[1] 2	21	1,013	1	1,416	------	------
China	------	281	------	1,606	------	400	------	136
Egypt	257	476	30	427	4	506	------	------
Peru	------	[2] [3] 21	------	455	------	557	------	718
United Kingdom	5,899	7,189	2,802	5,162	5,432	3,098	1,418	3,198
United States	[4] 629	38,968	1,261	24,634	89	33,673	3	1,004
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	364	157	62	1	133	9	------	------
Australia	142	------	80	------	59	------	------	------
Austria	------	------	393	------	61	------	------	------
Austria-Hungary	39	[2] 5	------	------	------	------	------	------
Belgium	2,251	1,086	720	159	563	225	156	29
Canada	2,817	------	6,091	------	5,781	------	4,088	------
Czechoslovakia	------	------	[2] 42	[2] 5	[2] 1	------	68	------
Denmark	[2] 944	------	877	61	1,774	26	1,107	------
France	3,289	335	2,677	84	1,214	104	625	39
Germany	6,918	------	------	------	[2] 2,855	------	783	------
Greece	------	------	719	------	253	------	104	------
Italy	4,600	1	4,029	1	3,936	1	71	4
Mexico	3,607	[5] 341	------	------	------	------	------	------
Netherlands	5,352	52	2,602	[6] 731	10,897	2,153	1,681	261
Norway	1,504	------	2,826	138	1,509	208	1,167	------
Rumania	633	(6)	15	------	------	------	------	------
Sweden	696	[4] 3	277	130	315	67	------	------
Uruguay	[2] 525	------	[2] 264	------	[2] 339	------	------	------
Other countries	3,933	33	1,802	565	782	102	45	------
Total	45,023	48,950	27,590	35,172	35,998	42,545	11,316	5,389

Division of Statistical and Historical Research. Official sources except where otherwise noted.

[1] One year only.
[2] International Institute of Agriculture.
[3] Four-year average.
[4] Three-year average.
[5] Two-year average.
[6] Less than 500 gallons.

TABLE 315.—*Cottonseed oil: Monthly average price, per hundredweight, spot prime summer yellow, New York, 1909–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1909–10	$5.46	$5.94	$6.60	$6.84	$7.32	$7.30	$7.14	$7.48	$7.76	$7.99	$7.96	$8.51	$7.19
1910–11	10.84	10.12	8.11	7.29	7.24	7.32	7.03	6.60	6.19	6.55	6.43	5.89	7.47
1911–12	5.85	6.96	5.97	5.73	5.37	5.39	5.54	5.69	6.46	7.18	6.86	6.67	6.14
1912–13	6.47	6.38	6.22	6.01	6.30	6.25	6.35	6.44	6.96	7.01	7.70	9.11	6.77
1913–14	8.38	7.67	7.00	7.05	6.86	6.98	7.12	7.38	7.51	7.18	7.30	7.18	7.34
Av. 1909–1913	7.50	7.41	6.78	6.58	6.62	6.65	6.64	6.72	6.98	7.18	7.25	7.47	6.98
1914–15	6.67	5.87	5.22	5.55	5.83	6.56	7.06	6.70	6.61	6.40	6.18	6.06	6.23
1915–16	5.78	6.30	7.71	7.93	8.38	8.99	9.59	10.53	10.73	10.91	10.91	10.04	8.98
1916–17	9.27	10.17	11.75	12.53	12.38	12.32	12.51	13.62	15.30	16.23	16.28	14.52	13.07
1917–18	14.84	16.44	17.99	18.59	18.65	20.09	20.33	19.84	19.75	20.00	20.25	20.25	18.91
1918–19	20.25	20.25	20.25	20.25	20.25	20.25	20.25	20.25	21.25	21.25	25.03	27.37	21.41
1919–20	25.88	21.33	23.00	22.75	21.50	21.86	19.67	19.07	18.54	19.21	16.70	13.21	20.23
1920–21	12.32	13.48	11.43	10.14	8.91	8.59	7.34	6.26	6.24	7.22	7.46	8.57	9.00
Av. 1914–1920	13.57	13.41	13.91	13.96	13.70	14.09	13.82	13.75	14.06	14.46	14.68	14.29	13.98
1921–22	8.69	9.88	8.69	8.30	8.28	8.62	9.86	11.48	11.57	11.71	11.33	10.97	9.95
1922–23	9.96	8.54	8.88	9.51	9.81	10.77	10.90	11.78	11.76	11.60	11.48	10.35	10.44
1923–24	10.34	11.62	12.01	11.67	11.00	.....	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Compiled from New York Produce Exchange reports prior to 1922; later years from quotations in the Oil, Paint and Drug Reporter.

HAY.

TABLE 316.—*Hay, tame: Acreage, production, value, exports, etc., United States, 1869–1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per ton Dec. 1.	Farm value Dec. 1.	Value per acre Dec. 1.[1]	Chicago prices No. 1 timothy per ton by carload lots.				Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
							December.		Following May.			
							Low.	High.	Low.	High.		
	1,000 acres.	*Short tons.*	*1,000 short tons.*	*Dollars.*	*1,000 dollars.*	*Dollars.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Short tons.*	*Short tons.*
1869	18,591	1.42	26,420	10.18	268,933	14.47	.....	.....	.....	.....	7,530	.....
1870	19,862	1.23	24,525	12.47	305,743	15.39	.....	.....	.....	.....	5,131	.....
1871	19,009	1.17	22,239	14.30	317,940	16.73	.....	.....	.....	.....	5,898	.....
1872	20,319	1.17	23,813	12.94	308,025	15.16	.....	.....	.....	.....	5,104	.....
1873	21,894	1.15	25,085	12.53	314,241	14.35	.....	.....	.....	.....	5,476	.....
1874	21,770	1.15	25,134	11.94	300,222	13.79	.....	.....	.....	.....	8,045	.....
1875	23,508	1.19	27,874	10.78	300,378	12.78	.....	.....	.....	.....	8,431	.....
1876	25,283	1.22	30,867	8.97	276,991	10.96	.....	.....	9.00	10.00	8,161	.....
1877	25,368	1.25	31,629	8.37	264,880	10.44	9.50	10.50	9.75	10.75	10,656	21,124
1878	26,931	1.47	39,608	7.20	285,016	10.58	8.00	8.50	9.00	11.50	9,102	11,558
1879	*30,681*	1.30	39,862	9.31	371,045	12.11	14.00	14.50	14.00	15.00	15,388	73,929
1880	25,864	1.23	31,925	11.65	371,811	14.38	15.00	15.50	17.00	19.00	14,181	195,195
1881	30,889	1.14	35,135	11.82	415,131	13.44	16.00	16.50	15.00	16.50	11,838	96,352
1882	32,340	1.18	38,138	9.73	371,170	11.48	11.50	12.25	12.00	13.00	14,906	109,283
1883	35,516	1.32	46,864	8.19	383,834	10.81	9.00	10.00	12.50	17.00	18,937	133,230
1884	38,572	1.26	48,470	8.17	396,139	10.27	10.00	11.50	15.50	17.50	12,479	180,264
1885	39,850	1.12	44,752	8.71	389,753	9.78	11.00	12.00	10.00	12.00	14,997	103,172
1886	36,502	1.15	41,796	8.46	353,438	9.68	9.50	10.50	11.00	12.50	15,538	87,772
1887	37,665	1.10	41,454	9.97	413,440	10.98	13.50	14.50	17.00	21.00	20,382	112,301
1888	38,592	1.21	46,643	8.76	408,500	10.59	11.00	11.50	10.50	21.00	24,559	118,042
1889	*39,004*	1.26	49,181	7.76	381,481	9.78	9.00	10.00	9.00	14.00	40,627	139,489
1890	40,033	1.23	49,057	8.18	401,111	10.02	9.00	10.50	12.50	15.50	31,433	65,231
1891	41,258	1.18	48,759	8.89	433,276	10.50	12.50	15.00	13.50	14.00	39,425	89,281
1892	42,191	1.17	49,238	8.95	440,710	10.45	11.00	11.50	12.00	13.50	37,064	116,768
1893	42,413	1.31	55,575	9.48	527,044	12.43	10.00	10.50	10.00	10.50	60,980	97,198

[1]Based on farm price Dec. 1.

TABLE 316.—*Hay, tame: Acreage, production, value, exports, etc., United States, 1869–1923*—Continued.

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per ton Dec. 1.	Farm value Dec. 1.	Value per acre Dec. 1.[1]	Chicago prices No. 1 timothy per ton by carload lots.				Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
							December.		Following May.			
							Low.	High.	Low.	High.		
	1,000 acres.	*Short tons.*	*1,000 short tons.*	*Dollars.*	*1,000 dollars.*	*Dollars.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Short tons.*	*Short tons.*
1894	42,772	1.18	50,468	8.96	452,079	10.57	10.00	11.00	10.00	10.25	52,771	220,128
1895	40,832	1.02	41,838	9.46	395,647	9.69	12.00	12.50	11.50	12.00	66,138	338,970
1896	40,978	1.33	54,380	7.48	406,957	9.93	8.00	8.50	8.50	9.00	69,057	134,335
1897	41,336	1.42	58,878	7.28	428,919	10.38	8.00	8.50	9.50	10.50	91,646	4,353
1898	43,120	1.55	66,772	6.63	442,905	10.27	8.00	8.25	9.50	10.50	72,708	22,257
1899	*45,127*	1.33	57,450	8.20	470,844	10.92	10.50	11.50	10.50	12.50	81,442	161,157
1900	42,070	1.27	53,231	9.72	517,399	12.30	11.50	14.00	12.50	13.50	100,068	159,734
1901	42,066	1.33	55,819	9.91	553,328	13.15	13.00	13.50	12.50	13.50	171,843	54,225
1902	42,962	1.52	65,296	9.19	599,781	13.96	12.00	12.50	13.50	15.00	57,091	328,285
1903	43,400	1.57	68,154	9.35	637,485	14.69	10.00	12.00	12.00	15.00	68,018	128,115
1904	44,645	1.55	69,192	8.91	616,369	13.81	10.50	11.50	11.00	12.00	74,544	51,760
1905	45,991	1.59	72,973	8.59	627,023	13.63	10.00	12.00	11.50	12.50	78,593	76,765
1906	47,891	1.39	66,341	10.43	692,116	14.45	15.50	18.00	15.50	20.50	65,634	68,450
1907	49,098	1.47	72,261	11.78	850,915	17.33	13.00	17.50	13.00	14.00	86,555	11,271
1908	51,196	1.53	78,440	9.14	716,644	14.00	11.50	12.00	12.00	13.00	74,638	7,517
1909	*51,041*	1.46	74,384	10.58	786,722	15.41	16.00	17.00	12.50	13.00	61,608	108,448
1910	51,015	1.36	69,378	12.14	842,252	16.51	16.00	19.00	18.50	23.50	61,850	377,168
1911	48,240	1.14	54,916	14.29	784,926	16.27	20.00	22.00	24.00	28.00	66,898	782,884
1912	49,530	1.47	72,691	11.79	856,695	17.30	13.00	18.00	14.00	16.50	68,006	175,082
1913	48,954	1.31	64,116	12.43	797,077	16.28	14.50	18.00	15.00	17.50	56,169	191,280
Av. 1909–1913.	49,756	1.35	67,097	12.12	813,534	16.35	15.90	18.80	16.80	20.30	62,906	326,972
1914	49,145	1.43	70,071	11.12	779,068	15.85	15.00	16.00	16.50	17.50	118,169	22,809
1915	51,108	1.68	85,920	10.63	913,644	17.88	14.50	16.50	17.50	20.00	199,736	48,306
1916	55,721	1.64	91,192	11.22	1,022,930	18.36	15.00	17.50	19.00	22.00	95,792	65,125
1917	55,203	1.51	83,308	17.09	1,423,766	25.79	26.00	28.00	20.00	26.00	33,762	460,027
1918	55,755	1.37	76,660	20.13	1,543,494	27.68	29.00	31.00	34.00	37.00	32,366	310,742
1919	50,888	1.52	86,359	20.08	1,734,085	30.48	28.00	32.00	35.00	50.00	67,142	251,946
1920	58,101	1.51	87,855	17.76	1,560,235	26.85	26.00	32.00	21.00	23.00	55,446	126,185
Av. 1914–1920.	54,560	1.52	83,052	15.44	1,282,460	23.51	21.93	24.71	23.29	27.93	86,059	183,571
1921	58,769	1.40	82,379	12.11	997,527	16.97	20.00	24.00	26.00	28.00	61,240	5,357
1922	61,159	1.57	95,882	12.56	1,204,101	19.69	20.00	22.00	21.00	23.00	53,096	35,430
1923[2]	60,162	1.48	89,098	14.07	1,253,364	20.83	25.00	27.00	-----	-----	-----	-----

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] Preliminary.

TABLE 317.—*Wild, salt, and prairie hay: Acreage, production, and farm value, United States, 1909–1923.*

Calendar year.	Acreage.	Yield per acre.	Production.	Farm price per ton.	Farm value.	Calendar year.	Acreage.	Yield per acre.	Production.	Farm price per ton.	Farm value.
	1,000 acres.	*Tons.*	*1,000 tons.*	*Dolls.*	*1,000 dolls.*		*1,000 acres.*	*Tons.*	*1,000 tons.*	*Dolls.*	*1,000 dolls.*
1909	[1]17,186	1.07	18,383	-----	-----	1917	16,212	0.93	15,131	13.49	204,086
1910	17,187	.77	13,151	-----	-----	1918	15,365	.94	14,479	15.23	220,487
1911	17,187	.71	12,155	-----	-----	1919	17,150	1.07	18,401	16.50	303,639
1912	17,427	1.04	18,043	-----	-----	1920	15,787	1.11	17,460	11.35	198,115
1913	16,841	.92	15,063	-----	-----	1921	15,632	.98	15,391	6.63	101,991
1914	16,752	1.11	18,615	7.49	139,500	1922	15,871	1.02	16,181	7.14	115,176
1915	16,796	1.27	21,343	6.80	145,125	1923[2]	15,722	1.11	17,528	7.85	137,603
1916	16,635	1.19	19,800	7.90	156,503						

Division of Crop and Livestock Estimates. [1] Census acreage. [2] Preliminary.

TABLE 318.—*Hay: Acreage, production, and total farm value, by States, calendar years, 1922 and 1923.*

State.	Tame hay.						Wild, salt, or prairie hay.					
	Thousands of acres.		Production, thousands of tons.		Total value, basis Dec. 1 price, thousands of dollars.		Thousands of acres.		Production, thousands of tons.		Total value, basis Dec. 1 price, thousands of dollars.	
	1922	1923[1]	1922	1923[1]	1922	1923[1]	1922	1923[1]	1922	1923[1]	1922	1923[1]
Maine	1,233	1,245	1,541	1,594	20,187	21,519	15	16	16	18	176	198
New Hampshire	450	441	590	529	11,505	10,051	12	12	12	11	144	126
Vermont	909	918	1,273	1,285	22,278	21,202	13	13	14	13	147	150
Massachusetts	430	434	568	595	13,064	15,470	12	12	12	12	174	192
Rhode Island	45	45	58	56	1,537	1,501	1	1	1	1	18	18
Connecticut	320	320	432	422	11,232	10,128	9	9	9	11	146	199
New York	4,870	4,919	6,818	6,690	96,134	108,378	67	67	79	79	790	924
New Jersey	303	312	488	328	8,833	8,823	22	22	31	26	372	390
Pennsylvania	2,920	2,920	4,584	3,066	65,551	65,919	23	25	28	29	224	450
Delaware	77	81	116	93	2,204	1,953	2	2	2	3	20	32
Maryland	406	400	658	420	12,173	9,912	4	4	4	5	60	80
Virginia	1,040	1,010	1,300	1,010	20,800	20,200	14	14	14	14	189	210
West Virginia	768	753	1,037	904	17,422	17,990	11	11	13	11	182	154
North Carolina	800	784	1,040	941	18,928	18,320	100	100	100	100	1,550	1,550
South Carolina	455	480	455	408	7,962	7,344	6	6	6	5	89	80
Georgia	728	772	612	510	10,404	9,639	16	16	15	14	202	207
Florida	126	132	89	119	1,646	2,380	6	6	5	5	85	93
Ohio	3,374	3,070	5,061	3,684	54,659	61,523	2	------	3	------	30	------
Indiana	2,700	2,219	3,699	2,740	41,429	42,744	25	24	28	28	238	280
Illinois	3,645	3,280	5,285	4,264	66,062	63,107	62	61	78	70	780	833
Michigan	3,074	3,105	4,457	3,912	45,016	56,724	56	52	73	62	518	533
Wisconsin	3,155	3,187	5,364	4,239	65,977	67,824	335	368	436	478	3,357	4,780
Minnesota	1,988	2,016	3,141	2,520	33,609	28,476	2,053	2,041	2,505	2,347	19,288	21,123
Iowa	3,351	3,351	4,926	5,060	49,260	63,250	425	404	484	485	4,066	4,996
Missouri	3,520	3,310	3,872	4,038	44,528	48,456	134	125	127	138	952	1,228
North Dakota	1,028	1,079	1,655	1,618	12,412	11,002	2,469	2,395	2,592	2,395	12,960	12,933
South Dakota	1,000	1,050	1,800	1,732	13,500	14,029	3,675	3,491	3,308	4,189	18,194	24,296
Nebraska	1,553	1,584	3,028	3,849	33,914	39,260	2,208	2,296	1,877	2,526	15,954	20,208
Kansas	1,630	1,630	3,504	3,602	32,587	38,181	887	892	976	1,053	5,856	7,792
Kentucky	1,177	1,130	1,471	1,186	21,330	20,162	23	23	26	23	325	276
Tennessee	1,382	1,354	1,866	1,557	30,602	28,804	52	55	57	60	627	816
Alabama	760	761	730	616	12,410	11,396	25	25	20	26	270	276
Mississippi	458	471	550	589	7,975	9,130	41	43	45	52	518	614
Louisiana	214	214	342	342	4,549	5,130	18	18	25	22	225	264
Texas	671	711	1,074	1,173	12,351	18,768	201	207	221	228	2,210	2,850
Oklahoma	965	936	1,544	1,498	19,300	21,421	495	520	446	510	3,345	5,610
Arkansas	585	556	731	712	9,942	11,392	133	126	133	152	1,596	1,900
Montana	1,045	1,087	1,975	2,044	17,775	18,192	600	653	594	594	4,752	4,752
Wyoming	715	750	1,366	1,425	11,611	13,680	310	315	294	331	2,499	2,979
Colorado	1,191	1,203	2,263	2,406	25,346	27,188	366	373	355	392	3,195	4,116
New Mexico	162	158	292	332	5,694	5,312	33	40	26	32	468	448
Arizona	165	175	578	612	10,404	9,180	10	12	5	15	60	243
Utah	503	523	1,459	1,407	11,964	12,522	112	117	155	178	852	1,216
Nevada	179	180	507	477	5,983	5,247	181	173	288	189	2,736	1,890
Idaho	1,029	1,060	2,572	2,650	25,720	23,585	132	132	158	158	1,185	1,232
Washington	987	1,005	1,974	2,362	31,979	28,344	27	27	31	43	372	400
Oregon	965	984	1,930	2,214	26,248	24,354	228	226	228	249	1,596	2,116
California	2,108	2,066	5,207	5,268	78,105	73,752	160	152	176	152	1,584	1,520
United States.	61,159	60,162	95,882	89,098	1,204,101	1,253,364	15,871	15,722	16,131	17,528	115,176	137,603

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 319.—*Hay, tame: Yield in tons per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	T.	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*
Maine	0.90	0.95	1.25	1.10	1.16	1.00	1.09	1.15	1.15	1.45	1.35	1.15	1.20	0.95	1.20	0.80	1.25	1.28
New Hampshire	.92	.97	1.20	1.05	1.25	1.00	1.09	1.15	1.00	1.45	1.35	1.15	1.20	1.10	1.20	.95	1.31	1.20
Vermont	1.11	1.25	1.35	1.30	1.50	1.28	1.34	1.20	1.35	1.70	1.62	1.30	1.50	1.35	1.43	1.05	1.40	1.40
Massachusetts	1.20	1.15	1.28	1.08	1.25	1.21	1.19	1.32	1.50	1.56	1.50	1.20	1.40	1.35	1.40	1.25	1.32	1.37
Rhode Island	1.50	1.10	1.18	1.00	1.13	1.17	1.12	1.17	1.24	1.35	1.50	1.30	1.25	1.10	1.27	1.10	1.30	1.25
Connecticut	1.20	1.15	1.35	1.10	1.15	1.14	1.18	1.25	1.35	1.55	1.50	1.30	1.35	1.20	1.36	1.30	1.35	1.32
New York	1.20	1.05	1.32	1.02	1.25	1.14	1.16	1.20	1.30	1.62	1.46	1.25	1.40	1.25	1.35	1.00	1.40	1.36
New Jersey	1.60	1.25	1.50	1.05	1.44	1.30	1.31	1.35	1.45	1.60	1.45	1.50	1.50	1.05	1.50	1.32	1.61	1.05
Pennsylvania	1.50	1.20	1.38	1.00	1.43	1.32	1.27	1.28	1.40	1.60	1.41	1.41	1.35	1.40	1.41	1.20	1.57	1.05
Delaware	1.60	1.40	1.43	.88	1.33	1.30	1.27	1.10	1.20	1.45	1.26	1.25	1.28	1.40	1.28	1.20	1.50	1.15
Maryland	1.60	1.20	1.35	.72	1.51	1.26	1.21	1.15	1.20	1.48	1.25	1.35	1.40	1.55	1.34	1.35	1.62	1.05
Virginia	1.30	1.30	1.19	.64	1.20	1.27	1.12	.72	1.35	1.35	1.16	1.35	1.20	1.30	1.20	.98	1.25	1.00
West Virginia	1.45	1.25	1.20	.66	1.38	1.25	1.15	.92	1.50	1.54	1.27	1.30	1.20	1.25	1.28	1.20	1.35	1.20
North Carolina	1.50	1.38	1.50	1.05	1.30	1.31	1.31	1.15	1.85	1.30	1.13	1.20	1.02	1.05	1.24	1.30	1.30	1.20
South Carolina	1.25	1.23	1.25	1.08	1.15	1.16	1.17	1.15	1.30	1.30	1.08	1.10	.90	.93	1.11	.81	1.00	.85
Georgia	1.75	1.35	1.40	1.35	1.35	1.40	1.37	1.35	1.15	1.15	1.03	1.24	.85	.81	1.08	.88	.84	.66
Florida	1.35	1.38	1.33	1.30	1.25	1.35	1.32	1.35	1.20	1.25	1.10	1.14	.77	.65	1.07	1.10	.71	.90
Ohio	1.53	1.43	1.39	.98	1.36	1.30	1.29	1.13	1.44	1.57	1.42	1.40	1.35	1.35	1.38	1.27	1.50	1.20
Indiana	1.50	1.40	1.30	.94	1.37	1.00	1.20	1.00	1.50	1.44	1.45	1.45	1.22	1.29	1.34	1.08	1.37	1.24
Illinois	1.53	1.45	1.33	.82	1.30	.98	1.18	.85	1.54	1.45	1.25	1.35	1.35	1.25	1.29	1.18	1.45	1.30
Michigan	1.45	1.30	1.30	1.16	1.33	1.05	1.23	1.28	1.40	1.70	1.50	1.03	1.20	1.20	1.33	1.00	1.45	1.26
Wisconsin	1.70	1.53	1.00	1.20	1.60	1.62	1.39	1.75	1.75	1.70	1.70	1.40	1.77	1.70	1.68	1.35	1.70	1.33
Minnesota	1.68	1.75	1.00	1.00	1.53	1.50	1.36	1.89	1.91	1.85	1.55	1.40	1.90	1.70	1.74	1.50	1.58	1.25
Iowa	1.70	1.64	1.05	.80	1.40	1.48	1.27	1.38	1.80	1.69	1.23	1.30	1.53	1.52	1.48	1.48	1.47	1.51
Missouri	1.59	1.35	1.30	.60	1.30	.60	1.03	.70	1.52	1.30	1.15	.90	1.35	1.24	1.17	1.13	1.10	1.22
North Dakota	1.30	1.37	.55	1.10	1.40	1.14	1.11	1.45	1.50	1.70	.88	1.10	1.00	1.25	1.27	1.35	1.61	1.50
South Dakota	1.50	1.50	.80	.55	1.46	1.20	1.10	1.70	2.09	1.90	1.50	1.60	1.75	1.75	1.74	1.40	1.80	1.65
Nebraska	1.55	1.50	1.60	.85	1.35	1.34	1.21	1.69	2.66	2.10	1.69	1.40	1.86	1.90	1.88	2.19	1.95	2.43
Kansas	1.50	1.45	1.15	.85	1.50	.90	1.17	1.51	2.30	1.55	2.18	1.73	2.46	2.08	1.97	1.80	2.15	2.21
Kentucky	1.35	1.36	1.29	.95	1.23	.87	1.14	.95	1.48	1.49	1.30	1.30	1.15	1.20	1.24	1.05	1.25	1.05
Tennessee	1.50	1.50	1.40	1.00	1.30	1.21	1.28	1.20	1.47	1.38	1.20	1.35	1.16	1.28	1.29	1.15	1.35	1.15
Alabama	1.60	1.50	1.43	1.49	1.25	1.36	1.39	1.31	1.45	1.10	.80	.81	.90	.88	1.03	.90	.96	.81
Mississippi	1.56	1.47	1.42	1.50	1.48	1.33	1.44	1.45	1.40	1.40	1.45	1.20	1.35	1.44	1.38	1.15	1.29	1.25
Louisiana	1.40	1.50	1.75	1.30	1.65	1.50	1.54	1.90	1.75	1.70	1.60	1.30	1.44	1.40	1.58	1.28	1.69	1.60
Texas	1.65	.95	1.15	1.00	1.40	1.16	1.13	1.75	1.70	1.20	1.09	1.00	1.60	1.40	1.38	1.30	1.60	1.65
Oklahoma	1.45	.90	1.05	.80	1.25	.85	.97	1.13	2.30	1.70	1.60	1.29	1.82	1.60	1.62	1.52	1.60	1.60
Arkansas	1.50	1.25	1.35	1.15	1.23	1.20	1.24	1.05	1.60	1.25	1.47	1.30	1.12	1.16	1.28	1.08	1.25	1.28
Montana	2.00	1.79	1.40	2.00	1.90	1.80	1.78	2.50	2.00	1.70	1.40	1.60	1.00	1.80	1.71	1.80	1.89	1.88
Wyoming	2.00	2.40	2.40	2.10	1.90	1.90	2.14	2.30	2.20	1.80	1.70	2.10	1.40	2.00	1.93	1.80	1.91	1.90
Colorado	2.50	2.50	2.00	2.00	2.19	2.05	2.15	2.40	2.20	2.05	2.45	2.22	2.05	2.15	2.22	2.10	1.90	2.00
New Mexico	2.00	2.60	2.10	2.60	2.33	2.08	2.34	2.50	2.20	2.00	1.90	2.20	2.40	2.40	2.23	2.40	1.80	2.10
Arizona	3.20	3.30	2.10	3.86	3.40	4.00	3.33	3.20	3.20	3.80	3.50	3.20	3.50	3.10	3.36	3.00	3.50	3.50
Utah	2.50	2.90	3.00	2.50	2.78	2.33	2.70	2.75	2.50	2.20	2.90	2.35	1.92	2.62	2.46	2.62	2.90	2.69
Nevada	2.00	2.35	3.40	3.40	3.00	2.75	2.98	3.25	3.00	2.40	2.90	2.60	2.28	2.33	2.68	2.67	2.83	2.65
Idaho	3.25	2.85	3.00	3.10	2.80	2.90	2.93	2.65	2.70	2.50	3.00	3.00	2.30	2.70	2.69	2.90	2.50	2.50
Washington	2.25	2.10	2.10	2.40	2.20	2.30	2.22	2.20	2.30	2.40	2.20	1.80	2.40	2.00	2.19	2.60	2.00	2.35
Oregon	2.00	2.05	2.10	2.10	2.20	2.10	2.11	2.00	2.20	2.30	1.95	1.80	1.72	2.25	2.08	2.30	2.00	2.25
California	1.35	1.70	1.83	1.75	1.53	1.50	1.66	1.95	1.80	1.75	2.00	1.25	2.25	2.30	1.90	2.35	2.47	2.55
United States	1.53	1.46	1.36	1.14	1.47	1.31	1.35	1.43	1.68	1.64	1.51	1.37	1.52	1.51	1.52	1.40	1.57	1.48

Division of Crop and Livestock Estimates.

TABLE 320.—*Hay, wild: Yield per acre, by States, calendar years, 1910–1923.*

State.	1910	1911	1912	1913	Av. 1910–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
Maine	1.05	0.90	0.96	0.80	0.93	1.05	0.95	1.08	1.00	0.90	1.00	1.00	1.00	0.86	1.10	1.10
New Hampshire	1.05	.85	1.05	.80	.94	1.00	.80	1.05	1.00	.90	1.00	.95	.96	.80	1.00	.94
Vermont	1.10	1.05	1.25	1.03	1.11	1.07	1.05	1.35	1.00	1.00	1.10	1.00	1.08	1.00	1.10	1.00
Massachusetts	1.05	.88	1.05	1.01	1.00	1.10	1.05	1.05	1.00	1.00	1.10	1.10	1.06	1.00	1.00	1.00
Rhode Island	1.00	.80	.93	.97	.92	1.00	1.00	1.00	.90	.90	1.00	1.00	.96	.88	.90	.95
Connecticut	1.00	.90	.95	.89	.94	1.15	.95	1.17	1.00	1.00	1.08	1.00	1.05	1.10	1.00	1.20
New York	1.05	.87	1.10	1.00	1.00	1.30	1.00	1.45	1.25	1.00	1.26	1.19	1.21	1.00	1.18	1.18
New Jersey	1.30	.90	1.30	1.15	1.16	1.50	1.15	1.45	1.45	1.30	1.20	1.35	1.34	1.23	1.40	1.29
Pennsylvania	1.20	.85	1.25	1.20	1.12	1.16	1.00	1.55	1.30	.95	1.25	1.24	1.21	1.20	1.20	1.15
Delaware	1.25	.80	1.20	1.15	1.10	1.24	1.20	1.28	1.12	1.14	1.33	1.50	1.26	.87	1.24	1.36
Maryland	1.25	.65	1.35	1.15	1.10	1.15	1.10	1.25	1.14	1.17	1.38	1.45	1.23	1.20	1.12	1.15
Virginia	1.05	.60	1.10	1.15	.98	.87	1.10	1.05	1.10	1.05	1.12	1.25	1.08	.75	1.00	1.00
West Virginia	1.10	.60	1.20	1.15	1.01	.95	1.10	1.20	1.20	1.20	1.14	1.20	1.14	1.10	1.20	1.00
North Carolina	1.20	1.00	1.10	1.15	1.11	1.10	1.40	1.07	1.01	1.00	1.00	1.20	1.11	1.00	1.00	1.00
South Carolina	1.20	1.05	1.10	1.15	1.12	1.15	1.40	1.25	1.25	1.05	1.10	1.20	1.20	.81	1.00	.85
Georgia	1.30	1.30	1.30	1.35	1.31	1.15	1.20	1.25	1.10	.91	.95	.90	1.07	1.00	.92	.90
Florida	1.20	1.15	1.10	1.20	1.16	1.05	1.15	1.00	1.00	1.10	1.05	.95	1.04	.90	.90	.85
Ohio	1.25	.90	1.30	1.20	1.16	1.10	1.42	1.50	1.30	1.50	1.30	1.28	1.34	1.40	1.50	-----
Indiana	1.25	.90	1.30	1.00	1.11	1.10	1.20	1.40	1.28	1.20	1.20	1.20	1.21	1.07	1.14	1.15
Illinois	1.10	.75	1.10	.85	.95	1.05	1.30	1.20	1.40	1.30	1.15	1.20	1.23	1.20	1.25	1.15
Michigan	1.10	.95	1.10	.85	1.00	1.25	1.15	1.33	1.25	1.05	1.25	1.28	1.22	1.10	1.30	1.20
Wisconsin	.90	1.00	1.25	1.30	1.11	1.33	1.35	1.47	1.37	1.55	1.36	1.28	1.39	1.20	1.30	1.30
Minnesota	.70	.70	1.10	1.10	.90	1.44	1.35	1.52	1.24	1.15	1.46	1.40	1.37	1.28	1.22	1.15
Iowa	.80	.60	1.00	1.10	.88	1.20	1.35	1.30	1.15	1.20	1.26	1.27	1.25	1.16	1.14	1.20
Missouri	1.00	.50	1.00	.60	.78	.84	1.15	1.10	1.00	.75	1.16	1.12	1.02	1.10	.95	1.10
North Dakota	.50	.80	1.00	.90	.80	1.02	1.15	1.20	.65	.90	.90	.95	.97	1.00	1.05	1.00
South Dakota	.60	.40	1.00	.80	.70	1.10	1.40	1.25	.90	1.00	1.00	1.12	1.11	.80	.90	1.20
Nebraska	.75	.65	1.00	.90	.82	1.07	1.20	1.10	.85	.88	1.02	1.02	1.02	.84	.85	1.10
Kansas	.90	.60	1.05	.70	.81	.96	1.40	1.10	.80	.60	1.15	.97	1.00	1.09	1.10	1.18
Kentucky	1.05	.90	1.05	.80	.95	1.20	1.20	1.15	1.50	1.00	1.10	1.00	1.16	.90	1.15	1.00
Tennessee	1.15	.95	1.10	1.05	1.06	1.20	1.10	1.20	1.10	1.00	1.10	1.15	1.12	1.15	1.10	1.10
Alabama	1.20	1.20	1.10	1.15	1.16	1.38	1.20	1.20	1.05	1.00	1.00	1.00	1.12	.90	.80	.80
Mississippi	1.20	1.30	1.25	1.15	1.22	1.20	1.10	1.25	1.22	1.20	1.30	1.30	1.22	1.00	1.10	1.20
Louisiana	1.35	1.00	1.25	1.20	1.20	1.55	1.40	1.40	1.25	1.00	1.50	1.30	1.34	1.30	1.40	1.20
Texas	.90	.70	1.00	.90	.88	1.25	1.40	1.05	.75	.60	1.25	1.10	1.06	1.10	1.10	1.10
Oklahoma	.80	.60	.90	.70	.75	.68	1.25	1.00	.70	.56	1.20	1.20	.94	1.00	.90	.98
Arkansas	1.05	.90	1.00	1.00	.99	1.00	1.20	1.00	1.12	.90	1.20	1.15	1.08	1.05	1.00	1.21
Montana	.80	1.10	1.00	.95	.96	.94	1.10	.90	.75	.75	.35	.95	.82	.80	.90	.91
Wyoming	1.00	.95	.90	.90	.94	1.00	.95	.95	1.00	1.10	.92	1.00	.99	.80	.95	1.05
Colorado	.90	.90	1.10	.95	.96	1.20	1.12	.92	1.02	.94	.89	1.05	1.02	1.00	.97	1.05
New Mexico	.70	.95	.90	.70	.81	.80	.90	.65	.87	.70	.90	.82	.81	.85	.80	.80
Arizona	.70	1.05	.75	1.00	.88	.80	.70	1.00	1.25	1.00	1.00	.80	.94	1.00	.50	1.25
Utah	1.60	1.55	1.60	1.50	1.56	1.60	1.60	1.50	1.75	1.10	1.17	1.23	1.42	1.10	1.38	1.52
Nevada	1.60	1.60	1.30	1.10	1.40	1.50	1.30	1.00	1.50	.50	.84	1.00	1.09	1.11	1.89	1.09
Idaho	1.50	1.60	1.40	1.50	1.50	1.25	1.40	1.20	1.40	1.10	1.00	1.20	1.22	1.50	1.20	1.20
Washington	1.20	1.40	1.25	1.25	1.28	1.30	1.20	1.40	1.40	1.33	1.20	1.15	1.28	1.50	1.14	1.58
Oregon	1.15	1.20	1.25	1.20	1.20	1.22	1.30	1.10	1.10	1.00	1.18	1.20	1.16	1.10	1.00	1.10
California	1.10	1.10	1.00	1.00	1.05	1.20	1.10	1.00	1.15	.95	1.04	1.04	1.07	1.10	1.10	1.00
United States	.77	.71	1.04	.92	.86	1.11	1.27	1.19	.93	.94	1.07	1.11	1.09	.98	1.02	1.11

Division of Crop and Livestock Estimates.

TABLE 321.—*Hay, alfalfa: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Vermont	1	1	1	1	1	2.41	2.60	3.00	3.00	2.20	2	3	3	3	2
Massachusetts	1	1	1	1	1	3.25	2.80	3.00	3.10	3.50	3	3	3	3	4
Connecticut	1	1	1	1	1	2.23	2.60	3.50	3.50	2.40	2	3	4	4	2
New York	120	132	145	155	163	2.72	2.50	2.50	2.75	2.40	326	330	362	426	391
New Jersey	15	15	15	17	19	2.70	2.70	2.62	2.85	2.19	40	40	39	48	42
Pennsylvania	31	30	32	35	38	2.60	2.45	2.55	2.70	2.35	81	74	82	94	85
Delaware	2	2	2	2	2	2.90	3.00	2.70	2.90	2.50	6	6	5	6	5
Maryland	12	12	11	16	16	2.60	2.80	2.60	2.75	2.25	31	34	9	44	36
Virginia	24	24	23	29	35	2.20	2.37	1.80	2.30	2.10	53	57	41	67	74
West Virginia	5	5	5	6	6	2.20	2.30	2.40	2.45	2.30	11	12	12	15	14
North Carolina	3	3	3	4	4	2.40	2.40	2.10	2.40	2.30	7	7	6	10	9
South Carolina	3	3	3	3	3	2.04	2.20	2.25	2.20	2.00	6	7	7	7	6
Georgia	3	3	4	4	4	2.20	2.00	2.25	2.40	2.10	7	6	9	10	8
Florida		3					2.00					6			
Ohio	94	89	90	118	113	2.31	2.50	2.50	2.50	2.60	217	222	225	295	294
Indiana	62	70	80	95	105	2.26	2.50	2.10	2.34	2.40	140	175	168	222	252
Illinois	89	100	107	124	136	2.65	2.70	2.59	2.70	2.90	236	270	277	335	394
Michigan	74	95	143	246	338	2.00	2.30	2.25	2.35	2.10	148	218	322	578	710
Wisconsin	70	106	131	92	155	2.50	2.70	2.66	2.67	2.30	175	286	348	246	356
Minnesota	45	59	77	88	123	3.60	2.90	2.60	2.61	2.34	124	171	200	230	288
Iowa	172	180	187	192	211	2.70	2.84	2.91	2.67	3.00	464	511	544	513	633
Missouri	152	168	164	170	185	2.40	2.52	2.05	2.40	2.35	365	423	336	408	435
North Dakota	58	56	56	65	70	1.72	1.90	2.20	2.50	2.10	100	106	123	162	147
South Dakota	462	459	508	543	590	2.15	2.33	1.90	2.22	2.10	993	1,069	965	1,205	1,239
Nebraska	1,180	1,233	1,196	1,163	1,163	2.60	2.70	2.36	2.07	2.60	3,068	3,239	2,823	2,407	3,024
Kansas	1,243	1,231	1,065	919	895	2.18	2.20	1.80	2.45	2.51	2,710	2,708	1,917	2,252	2,221
Kentucky	56	51	53	58	58	2.00	2.00	1.80	2.30	2.20	112	102	195	133	128
Tennessee	17	19	20	25	27	2.46	2.20	2.25	2.30	2.25	42	42	45	58	61
Alabama	10	10	10	20	25	2.30	1.87	1.70	1.50	1.50	23	19	17	30	38
Mississippi	30	28	24	24	22	2.80	2.30	2.50	2.30	2.41	84	64	60	55	53
Louisiana	8	8	12	18	21	2.40	2.90	2.80	2.75	2.33	19	23	34	50	48
Texas	58	56	57	60	62	2.70	2.60	2.50	2.40	2.50	157	146	142	144	155
Oklahoma	370	355	348	362	368	2.20	2.10	2.10	1.95	1.90	814	745	731	706	695
Arkansas	61	77	83	78	75	2.70	2.45	2.20	2.10	2.25	165	189	183	164	169
Montana	374	424	466	486	505	1.70	2.15	2.25	2.20	2.15	636	912	1,048	1,069	1,086
Wyoming	330	437	459	475	520	1.80	2.30	2.00	2.15	2.10	561	1,005	918	1,021	1,092
Colorado	782	845	818	818	834	2.45	2.80	2.50	2.15	2.25	1,916	2,366	2,045	1,759	1,876
New Mexico	125	127	132	107	104	2.70	2.70	2.60	2.40	2.60	338	343	343	257	270
Arizona	125	94	121	134	148	4.30	3.80	3.50	3.70	3.90	538	357	424	495	577
Utah	365	380	412	431	458	2.10	2.80	2.70	2.92	2.81	766	1,064	1,113	1,259	1,288
Nevada	117	110	120	121	124	2.80	2.80	3.20	3.39	3.23	328	308	384	411	400
Idaho	651	665	652	648	657	2.85	3.30	3.40	3.10	3.00	1,855	2,194	2,217	2,008	1,971
Washington	229	230	230	222	235	2.98	2.80	3.50	3.56	3.60	682	644	805	790	846
Oregon	211	217	220	240	246	3.11	3.50	3.50	3.40	3.50	656	760	770	816	861
California	909	920	941	952	981	3.65	3.70	3.70	3.80	3.80	3,318	3,404	3,482	3,618	3,728
United States	8,750	9,134	9,228	9,368	9,833	2.55	2.59	2.58	2.61	2.63	22,325	24,763	23,786	24,433	26,013

Division of Crop and Livestock Estimates.

[1]Preliminary.

TABLE 322.—*Hay, clover: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Maine	36	31	31	38	38	1.58	1.40	1.10	1.60	1.70	54	43	34	61	65
New Hampshire	10	11	10	14	14	1.70	1.60	1.30	1.60	1.80	17	17	13	22	25
Vermont	21	20	18	25	26	1.70	1.60	1.30	1.60	1.80	36	32	23	40	47
Massachusetts	14	12	11	14	14	1.75	1.70	1.50	1.70	1.90	24	20	18	24	27
Rhode Island	1	1	1	1	1	1.60	1.60	1.60	1.70	1.70	2	2	2	2	2
Connecticut	11	10	12	14	14	1.80	1.60	1.65	1.70	1.90	20	16	20	24	27
New York	482	477	435	472	481	1.60	1.30	1.02	1.60	1.60	771	620	444	755	770
New Jersey	29	28	29	32	33	1.50	1.60	1.22	1.50	1.00	44	45	35	48	33
Pennsylvania	317	308	311	300	294	1.35	1.48	1.15	1.54	1.05	428	456	358	462	309
Delaware	19	18	17	19	18	1.30	1.45	1.00	1.34	1.02	25	26	17	25	18
Maryland	106	108	97	106	100	1.35	1.50	1.10	1.50	.90	143	162	107	159	90
Virginia	200	180	180	192	168	1.30	1.24	1.00	1.20	.80	260	223	180	230	134
West Virginia	66	63	66	79	74	1.30	1.40	1.26	1.45	1.30	86	88	83	115	96
North Carolina	90	84	84	101	105	1.40	1.45	1.30	1.40	1.40	126	122	109	141	147
South Carolina	----	----	----	2	2	----	----	----	1.50	1.50	----	----	----	3	3
Georgia	3	3	4	3	3	1.50	1.54	1.34	1.50	1.20	4	5	5	4	4
Ohio	711	693	691	844	743	1.30	1.25	1.19	1.50	1.10	924	866	822	1,266	817
Indiana	563	591	561	710	426	1.23	1.23	.93	1.43	1.10	692	727	522	1,015	469
Illinois	802	801	799	1,063	773	1.50	1.18	1.10	1.50	1.20	1,203	945	879	1,640	928
Michigan	563	541	584	738	808	1.20	1.13	.90	1.40	1.18	676	611	526	1,033	953
Wisconsin	648	784	753	789	668	1.90	1.75	1.25	1.70	1.42	1,231	1,372	941	1,341	949
Minnesota	398	455	391	430	366	1.89	1.85	1.60	1.60	1.26	752	842	626	688	461
Iowa	741	720	749	890	838	1.70	1.45	1.40	1.41	1.44	1,260	1,044	1,049	1,255	1,207
Missouri	449	511	544	704	598	1.25	1.35	1.20	1.35	1.30	561	690	653	950	777
North Dakota	16	23	38	124	136	1.30	1.37	1.45	1.75	1.85	21	32	55	217	252
South Dakota	33	35	40	60	57	1.60	1.50	1.30	1.40	1.50	53	52	52	84	86
Nebraska	60	60	66	74	70	1.65	1.70	1.50	1.40	1.70	99	102	99	104	119
Kansas	49	62	84	104	119	1.57	1.68	1.31	1.43	1.60	77	104	110	149	190
Kentucky	260	188	194	204	184	1.32	1.35	1.00	1.45	1.40	264	254	194	298	261
Tennessee	290	319	271	310	298	1.25	1.30	1.05	1.40	1.20	362	415	285	434	358
Alabama	10	15	20	35	46	1.40	1.39	1.35	.90	.83	14	21	27	32	38
Mississippi	100	105	110	99	92	1.30	1.35	1.20	1.25	1.25	130	142	132	124	115
Louisiana	38	39	41	39	34	1.20	1.50	1.50	1.50	1.70	46	58	62	58	58
Oklahoma	5	5	6	6	6	1.30	1.60	1.60	1.40	1.65	6	8	10	8	10
Arkansas	55	53	57	60	60	1.60	1.45	1.20	1.25	1.41	88	77	68	75	84
Montana	38	42	44	45	52	1.05	1.60	1.60	1.80	1.80	40	67	70	81	94
Wyoming	12	15	16	25	27	1.10	2.00	1.60	1.60	1.50	13	30	26	40	40
Colorado	15	20	12	20	19	1.80	2.00	1.80	1.60	1.80	27	40	22	32	34
New Mexico	2	2	2	2	2	2.00	2.00	2.00	1.50	2.00	4	4	4	3	4
Utah	10	6	4	1	2	1.80	2.00	2.00	2.11	2.11	18	12	8	2	6
Nevada	3	3	3	1	1	1.50	1.90	1.95	1.99	1.73	4	6	6	2	2
Idaho	45	42	43	31	32	1.60	2.00	2.30	1.60	2.00	72	84	99	50	64
Washington	70	69	75	74	74	2.14	2.30	2.40	2.43	2.55	150	159	180	180	189
Oregon	88	91	94	140	147	2.00	2.15	2.25	2.20	2.70	176	196	212	308	397
California	15	15	15	15	15	1.62	1.70	1.90	1.30	1.70	25	26	29	26	26
United States	7,434	7,659	7,613	9,079	8,078	1.48	1.42	1.21	1.50	1.34	11,028	10,863	9,216	13,610	10,785

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 323.—*Hay, clover and timothy (mixed): Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Maine	696	620	628	604	610	1.25	0.95	0.85	1.40	1.40	870	589	534	846	854
New Hampshire	171	178	172	180	174	1.20	1.15	1.00	1.30	1.40	205	205	172	234	244
Vermont	549	547	531	545	550	1.60	1.40	1.00	1.45	1.50	878	766	531	790	825
Massachusetts	140	135	132	144	146	1.40	1.55	1.35	1.50	1.60	209	209	178	216	234
Rhode Island	16	15	15	16	16	1.50	1.35	1.40	1.45	1.40	24	20	21	23	22
Connecticut	83	84	84	84	83	1.50	1.45	1.60	1.65	1.50	124	122	134	139	124
New York	2,206	2,286	2,786	2,248	2,256	1.44	1.25	.90	1.42	1.40	3,306	2,857	2,507	3,192	3,158
New Jersey	116	136	123	138	142	1.45	1.65	1.30	1.60	1.04	168	224	160	221	148
Pennsylvania	1,458	1,534	1,596	1,568	1,560	1.35	1.40	1.18	1.60	1.04	1,968	2,148	1,883	2,509	1,622
Delaware	25	26	24	25	24	1.30	1.45	1.20	1.45	1.00	32	38	29	36	24
Maryland	140	151	148	147	140	1.40	1.50	1.30	1.60	1.00	196	226	192	235	140
Virginia	251	239	250	324	324	1.25	1.35	1.05	1.25	.85	314	323	262	405	272
West Virginia	265	275	275	288	292	1.25	1.30	1.15	1.35	1.20	331	358	316	389	350
North Carolina	40	42	40	38	39	1.30	1.35	1.35	1.40	1.30	52	57	54	53	51
South Carolina	3	3	3	------	------	1.60	1.40	1.20	----	----	5	4	4	------	------
Georgia	2	2	2	2	2	1.40	1.30	1.10	1.80	1.00	3	3	2	4	2
Ohio	731	893	941	964	874	1.40	1.35	1.28	1.55	1.15	1,023	1,206	1,204	1,494	1,005
Indiana	518	639	730	690	528	1.20	1.25	1.10	1.37	1.16	622	799	803	945	612
Illinois	543	720	739	803	722	1.45	1.15	1.15	1.48	1.21	787	828	850	1,188	874
Michigan	1,410	1,436	1,312	1,291	1,123	1.19	1.15	.92	1.38	1.15	1,678	1,651	1,207	1,782	1,291
Wisconsin	1,555	1,549	1,362	1,470	1,625	1.77	1.70	1.28	1.76	1.30	2,752	2,633	1,744	2,587	2,113
Minnesota	636	608	642	738	701	1.88	1.70	1.52	1.60	1.23	1,196	1,034	976	1,181	862
Iowa	1,238	1,306	1,286	1,353	1,400	1.55	1.45	1.42	1.45	1.50	1,919	1,894	1,826	1,962	2,100
Missouri	574	908	864	1,060	1,002	1.30	1.24	1.15	1.00	1.22	746	1,126	994	1,060	1,222
North Dakota	16	19	20	18	20	1.20	1.25	1.40	1.60	1.40	19	24	28	29	28
South Dakota	48	72	74	96	92	1.50	1.50	1.30	1.30	1.30	72	108	96	125	120
Nebraska	185	125	96	76	84	1.60	1.65	1.40	1.66	1.70	288	206	134	122	142
Kansas	44	54	49	82	87	1.40	1.40	1.30	1.35	1.57	62	76	64	111	137
Kentucky	163	190	149	220	200	1.30	1.30	1.05	1.35	1.30	212	247	156	297	260
Tennessee	163	166	176	205	200	1.25	1.20	1.15	1.40	1.30	204	199	202	287	260
Alabama	2	2	2	3	3	1.35	1.40	1.30	1.40	1.10	3	3	3	4	3
Mississippi	7	8	8	------	2	1.30	1.40	1.20	----	1.47	9	11	10	------	3
Louisiana	2	3	3	3	1	1.50	1.50	1.50	1.25	1.25	3	4	4	5	1
Texas	7	6	5	4	3	1.30	1.80	1.30	1.40	2.00	9	11	6	6	6
Oklahoma	5	5	5	6	6	1.30	1.80	1.45	1.30	1.10	6	9	7	8	7
Arkansas	64	60	62	60	55	1.40	1.40	1.20	1.10	1.10	90	84	74	66	61
Montana	116	140	154	150	156	1.10	1.80	1.70	1.90	2.00	128	252	262	285	312
Wyoming	26	28	28	34	37	1.10	1.70	1.50	1.40	1.50	29	48	42	48	56
Colorado	115	112	112	95	95	1.50	2.00	1.60	1.60	1.70	172	224	179	152	162
New Mexico	2	2	2	2	2	2.00	2.00	2.00	1.00	1.50	4	4	4	2	3
Arizona	1	1	1	1	1	1.50	2.00	1.50	1.50	1.50	2	2	2	2	2
Utah	26	25	29	32	25	1.80	2.00	1.90	2.10	2.08	46	50	55	67	52
Nevada	13	14	13	14	12	1.37	1.70	1.90	1.95	1.47	18	24	25	27	18
Idaho	77	75	75	103	95	1.50	1.75	2.00	1.80	1.90	116	131	150	185	180
Washington	93	93	98	94	96	2.25	2.10	2.20	2.00	2.55	209	195	216	188	245
Oregon	47	48	50	30	30	1.90	2.00	2.10	2.30	2.50	89	96	105	69	75
California	52	52	52	52	52	1.44	1.50	1.70	1.40	1.70	75	78	88	73	88
United States	14,739	15,632	15,948	16,100	15,687	1.44	1.37	1.16	1.47	1.30	21,273	21,406	18,495	23,649	20,371

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 324.—*Hay, timothy: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Maine	153	137	141	143	144	1.12	1.25	0.95	1.35	1.30	184	171	134	193	187
New Hampshire	58	59	60	62	62	1.50	1.35	1.15	1.40	1.30	87	80	69	87	81
Vermont	102	105	100	103	104	1.55	1.50	1.10	1.45	1.40	158	158	110	149	146
Massachusetts	78	72	71	71	71	1.31	1.60	1.30	1.55	1.50	121	115	92	110	106
Rhode Island	8	8	8	8	8	1.50	1.40	1.35	1.40	1.30	12	11	11	11	10
Connecticut	41	42	40	43	43	1.28	1.50	1.50	1.60	1.40	62	63	60	69	60
New York	1,300	1,300	797	1,300	1,313	1.40	1.20	1.00	1.37	1.32	1,820	1,560	797	1,781	1,733
New Jersey	75	81	85	80	77	1.40	1.60	1.30	1.50	.85	105	130	110	120	65
Pennsylvania	972	972	972	925	935	1.40	1.40	1.20	1.50	1.00	1,361	1,361	1,215	1,387	935
Delaware	10	11	10	11	10	1.28	1.43	1.25	1.37	.85	13	16	12	15	8
Maryland	83	81	80	85	84	1.40	1.45	1.25	1.41	.90	116	117	100	120	76
Virginia	91	84	82	103	105	1.25	1.25	1.10	1.20	.75	114	105	90	129	79
West Virginia	229	234	230	236	229	1.25	1.30	1.20	1.30	1.10	286	304	276	307	252
North Carolina	20	24	27	26	23	1.30	1.40	1.30	1.40	1.30	26	34	35	36	30
Georgia	2	2	3	2	2	1.30	1.00	1.20	1.40	1.09	3	2	4	3	2
Ohio	1,436	1,418	1,414	1,350	1,242	1.28	1.32	1.22	1.38	1.15	1,838	1,872	1,725	1,863	1,428
Indiana	808	760	765	730	744	1.20	1.28	1.05	1.33	1.20	970	973	803	971	893
Illinois	1,020	1,024	1,029	1,057	1,004	1.14	1.29	1.10	1.33	1.15	1,162	1,311	1,132	1,406	1,155
Michigan	656	643	655	676	686	1.15	1.20	.92	1.35	1.10	754	772	603	913	755
Wisconsin	580	527	538	663	572	1.63	1.51	1.30	1.51	1.05	945	796	699	1,001	601
Minnesota	515	501	632	546	573	1.73	1.62	1.45	1.43	1.02	891	812	916	781	584
Iowa	808	792	840	806	788	1.50	1.39	1.31	1.28	1.17	1,212	1,101	1,100	1,034	922
Missouri	1,167	1,277	1,216	1,232	1,142	1.28	1.20	1.10	.90	.95	1,493	1,532	1,338	1,108	1,085
North Dakota	190	179	182	154	162	1.00	1.20	1.30	1.45	1.20	190	215	237	223	194
South Dakota	116	166	168	134	129	1.40	1.50	1.30	1.25	1.15	162	249	218	167	148
Nebraska	47	47	36	22	20	1.55	1.60	1.30	1.20	1.40	73	75	47	26	28
Kansas	125	156	120	101	75	1.48	1.27	1.34	1.19	1.38	185	198	161	120	104
Kentucky	238	231	219	223	210	1.25	1.25	1.00	1.30	1.30	298	288	219	290	285
Tennessee	78	80	76	105	100	1.15	1.25	1.10	1.30	1.05	90	100	84	136	105
Alabama	2	2	2	2	2	1.30	1.45	1.30	1.50	1.20	3	3	3	3	2
Mississippi	2	2	2	2	------	1.30	1.50	1.20	1.25	-----	3	3	2	2	------
Louisiana	2	2	2	2	------	1.30	1.50	1.50	1.50	-----	3	3	3	3	------
Oklahoma	5	5	5	4	4	1.60	2.00	1.30	1.10	1.20	8	10	6	4	5
Arkansas	24	27	28	25	20	1.25	1.25	1.15	1.00	1.00	30	34	32	25	20
Montana	81	90	81	83	83	.80	1.50	1.40	1.50	1.63	65	135	114	124	135
Wyoming	30	32	32	50	52	1.20	1.40	1.30	1.20	1.40	36	45	42	60	73
Colorado	45	44	48	45	44	1.70	2.00	1.50	1.60	1.60	76	88	72	72	70
New Mexico	6	5	5	2	2	2.00	2.00	1.80	1.00	1.30	12	10	9	2	3
Utah	13	13	12	9	13	1.80	1.80	1.90	2.05	2.08	23	23	23	18	27
Nevada	4	5	5	5	7	1.10	1.50	2.00	1.80	1.59	4	8	10	9	10
Idaho	83	81	79	93	106	1.30	1.80	1.80	1.70	1.70	108	146	142	158	180
Washington	51	50	53	50	52	2.08	1.90	2.00	1.69	2.10	106	95	106	85	109
Oregon	31	32	32	20	20	1.60	1.80	1.90	1.60	1.80	50	58	61	32	36
California	13	13	13	13	15	1.50	1.40	1.50	1.50	1.50	19	18	20	20	22
United States	11,398	11,416	10,995	11,409	11,086	1.34	1.33	1.19	1.33	1.15	15,272	15,200	13,042	15,178	12,749

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 325.—*Hay, grains cut green: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Maine	15	13	20	16	16	1.70	1.70	1.45	2.10	2.20	26	22	29	34	35
New Hampshire	11	10	12	10	10	1.90	1.70	1.60	1.30	2.00	21	17	19	13	20
Vermont	17	16	18	16	16	1.70	2.00	1.90	1.80	2.00	29	32	34	29	32
Massachusetts	17	15	18	14	14	1.70	1.95	1.85	1.90	2.00	29	29	33	27	28
Rhode Island	3	3	3	3	3	1.60	1.55	1.60	1.60	1.60	5	5	5	5	5
Connecticut	14	12	15	12	12	1.40	1.60	1.50	1.80	2.00	20	19	22	22	24
New York	89	65	130	80	80	1.40	2.00	1.80	1.50	1.40	125	130	234	120	120
New Jersey	9	7	10	5	7	1.45	1.60	1.20	1.30	1.08	13	11	12	6	8
Pennsylvania	13	11	20	16	18	1.50	1.60	1.40	1.60	1.50	20	18	28	26	27
Delaware	3	3	4	3	2	1.35	1.40	1.20	2.00	1.75	4	4	5	6	3
Maryland	6	6	10	8	8	1.30	1.30	1.20	1.75	1.50	8	8	12	14	12
Virginia	56	53	50	50	41	1.20	1.40	1.40	1.25	1.00	67	74	70	62	41
West Virginia	26	30	35	39	39	1.20	1.30	1.25	1.40	1.40	31	39	44	55	55
North Carolina	59	56	50	78	80	1.00	.95	1.40	1.20	1.30	59	53	70	93	104
South Carolina	65	68	60	34	35	.95	.71	.85	1.30	1.20	62	100	51	44	42
Georgia	57	60	63	65	70	.80	.85	.83	.80	.61	46	51	52	52	43
Florida	7	8	5	5	6	.80	1.00	1.20	1.00	.95	6	8	6	5	6
Ohio	20	21	38	50	40	1.20	1.70	1.40	1.50	1.40	24	36	53	75	56
Indiana	61	44	94	300	147	1.10	1.60	1.20	1.00	1.20	67	70	113	300	176
Illinois	70	37	64	73	62	1.40	1.40	1.34	1.50	1.54	98	52	86	110	95
Michigan	59	28	86	15	27	.94	1.42	1.25	1.10	1.25	55	40	108	16	34
Wisconsin	28	20	60	36	45	1.30	1.60	1.40	1.30	1.30	36	32	84	47	58
Minnesota	89	28	29	40	80	1.40	1.60	1.45	1.40	1.30	125	45	42	56	104
Iowa	47	31	32	27	34	1.50	1.60	1.50	1.40	1.70	70	50	48	38	58
Missouri	190	128	192	87	45	1.20	1.40	1.25	.45	1.10	228	179	240	39	50
North Dakota	324	327	269	279	316	.80	1.20	1.20	1.40	1.25	259	392	323	391	395
South Dakota	109	107	78	80	80	1.00	1.20	1.20	1.10	1.20	109	128	94	88	96
Nebraska	40	27	27	39	34	1.15	1.40	1.30	1.10	1.25	46	38	35	43	42
Kansas	36	23	47	43	30	1.40	1.80	1.50	1.20	1.20	50	41	71	52	36
Kentucky	98	90	135	123	130	1.20	1.20	1.00	1.20	1.10	118	108	135	148	143
Tennessee	129	133	130	90	95	.95	1.10	1.00	1.20	.80	123	146	130	80	76
Alabama	54	59	118	100	118	1.00	.90	.90	1.00	.75	54	53	106	100	88
Mississippi	15	15	17	10	10	1.10	.95	1.00	.95	1.02	16	14	17	10	10
Louisiana	6	6	15	10	20	1.15	1.25	1.20	1.20	1.50	7	8	18	12	30
Texas	167	151	136	109	50	1.30	1.05	1.00	1.00	1.90	217	159	136	109	95
Oklahoma	94	100	112	48	53	1.30	1.20	1.20	1.10	1.10	122	120	134	53	58
Arkansas	193	170	112	82	75	.95	1.00	1.10	1.00	.80	183	170	123	82	60
Montana	467	313	202	195	197	.45	1.15	1.20	1.40	1.37	210	360	242	273	270
Wyoming	101	91	73	71	75	.65	1.25	1.20	1.50	1.70	66	114	88	106	128
Colorado	132	98	105	110	107	1.15	1.10	1.20	1.10	1.20	152	108	126	121	128
New Mexico	27	25	24	11	11	1.50	1.20	1.50	.40	1.20	40	30	36	4	13
Arizona	23	18	24	22	20	1.20	1.10	1.30	1.50	1.20	128	20	31	33	24
Utah	16	13	15	14	11	1.10	1.20	.95	.88	1.17	18	16	14	12	13
Nevada	7	9	7	8	6	1.00	1.20	1.22	1.24	1.28	7	11	9	10	8
Idaho	168	154	149	134	149	1.10	1.50	1.70	1.20	1.50	185	231	253	161	224
Washington	477	477	491	490	490	1.50	1.60	1.70	1.25	1.75	715	763	835	613	858
Oregon	467	452	489	410	413	1.30	1.70	1.60	1.20	1.50	607	764	782	492	620
California	1,085	1,070	1,032	1,000	930	1.20	1.20	1.20	1.40	1.40	1,302	1,284	1,238	1,400	1,302
United States	5,266	4,701	4,925	4,560	4,363	1.15	1.32	1.31	1.36	1.36	6,008	6,202	6,476	5,687	5,953

Division of Crop and Livestock Estimates.

[1]Preliminary.

TABLE 326.—*Hay, legumes: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Maine	2	3	4	2	2	1.20	1.20	1.10	1.30	1.20	2	4	4	3	2
New Hampshire	1	1	2	2	2	1.20	1.10	1.00	1.20	1.30	1	1	2	2	3
Vermont	1	1	2	1	1	1.50	1.40	1.30	1.50	1.40	2	1	3	2	1
Massachusetts	1	1	2	1	1	1.50	1.50	1.60	1.40	1.50	2	2	3	1	2
Rhode Island	1	1	1	1	1	1.50	1.40	1.30	1.40	1.40	2	1	1	1	1
Connecticut	2	2	1	1	1	1.20	1.30	1.30	1.40	1.50	2	3	1	1	2
New York	5	5	5	5	5	1.20	1.28	.80	1.20	1.20	6	6	4	6	6
New Jersey	3	3	3	3	3	1.60	1.40	1.30	1.60	1.30	5	4	4	5	4
Pennsylvania	4	4	4	4	4	1.80	1.80	1.80	1.90	1.50	7	7	7	8	6
Delaware	7	8	9	13	20	1.35	1.40	1.45	1.75	1.40	9	11	13	23	28
Maryland	15	16	18	24	32	1.40	1.50	1.50	2.00	1.50	21	24	27	48	48
Virginia	210	227	240	225	237	1.10	1.20	.70	1.30	1.25	231	272	168	291	296
West Virginia	9	12	13	15	15	1.20	1.20	1.00	1.40	1.60	11	14	13	21	24
North Carolina	320	286	344	396	386	.90	.95	1.05	1.05	1.00	288	272	361	416	386
South Carolina	190	196	250	341	385	.85	.95	.82	.85	.80	162	186	205	291	310
Georgia	407	434	469	504	562	.88	.90	.88	.78	.64	358	391	413	395	359
Florida	53	55	53	50	59	.80	.80	1.00	.68	.90	42	44	53	34	53
Ohio	6	10	10	17	20	1.50	1.60	1.50	1.70	1.50	9	16	15	29	30
Indiana	19	35	50	95	190	1.05	1.40	1.20	1.50	1.40	20	49	60	142	266
Illinois	72	84	92	160	239	1.30	1.20	1.30	1.50	1.70	93	101	120	240	406
Michigan	7	6	12	25	36	1.05	1.30	1.20	1.32	1.50	7	8	14	33	54
Wisconsin	5	8	24	30	35	1.50	1.50	1.70	1.20	1.30	8	12	41	36	45
Minnesota	6	19	19	30	45	1.60	1.40	1.40	1.20	1.10	10	27	27	36	50
Iowa	7	9	10	7	10	1.50	1.60	1.80	1.40	1.90	10	14	18	10	19
Missouri	47	63	70	107	165	1.10	1.15	1.10	1.20	1.15	52	72	77	128	190
North Dakota	28	28	28	28	25	.90	1.10	1.20	1.40	1.40	25	31	34	39	35
South Dakota	5	24	19	12	12	1.20	1.30	1.10	1.40	1.00	6	31	21	17	12
Nebraska	8	6	5	4	5	1.20	1.30	1.40	1.40	1.50	10	8	7	6	8
Kansas	5	3	4	6	8	1.30	1.50	1.80	1.40	1.31	7	4	7	8	10
Kentucky	35	45	67	96	96	1.10	1.10	1.00	1.95	1.40	38	50	67	117	134
Tennessee	280	260	280	313	311	1.05	1.30	1.20	1.30	1.19	294	338	336	407	371
Alabama	456	458	444	380	376	.80	.80	.80	.80	.61	365	366	355	304	246
Mississippi	68	92	128	193	202	1.10	1.10	.90	.98	1.10	75	101	115	191	222
Louisiana	85	87	93	105	101	1.40	1.35	1.10	1.10	1.13	119	117	103	116	114
Texas	57	60	54	50	66	1.20	1.30	1.20	1.04	.80	68	78	65	52	53
Oklahoma	25	24	30	33	33	1.30	1.30	1.10	1.30	1.30	32	31	33	43	43
Arkansas	77	97	108	128	117	1.00	1.15	1.00	1.10	1.10	77	112	108	141	129
Montana	6	6	5	4	4	.80	1.20	1.30	1.30	1.35	5	7	6	5	5
Wyoming	2	2	2	------	------	1.00	1.50	1.50	------	------	2	3	3	------	------
Colorado	13	10	10	15	14	1.20	1.40	1.50	1.30	1.40	16	14	15	19	20
New Mexico	3	3	3	3	3	1.30	1.30	1.30	1.00	1.50	4	4	4	3	4
Arizona	1	1	------	------	------	1.50	1.50	------	------	------	2	2	------	------	------
Utah	2	1	1	------	------	1.50	1.40	1.60	------	------	3	1	2	------	------
Nevada	1	1	1	------	------	1.60	1.80	1.75	------	------	2	2	2	------	------
Idaho	4	1	1	------	------	1.05	1.60	1.20	------	------	4	2	1	------	------
Washington	7	7	7	7	7	1.60	1.50	1.60	2.17	2.25	11	10	11	15	16
Oregon	25	25	25	48	49	1.75	1.60	1.50	2.00	2.00	44	40	38	96	98
California	26	26	26	26	20	1.16	1.20	1.30	1.20	1.50	30	31	34	31	30
United States	2,619	2,750	3,048	3,510	3,905	.99	1.06	.99	1.09	1.06	2,599	2,925	3,021	3,812	4,143

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 327.—*Hay, millet, sudan grass, and other: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.*

State.	Thousands of acres.					Yield per acre (tons).					Production, thousands of tons.				
	1919	1920	1921	1922	1923[1]	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923[1]
Maine	311	416	421	430	435	1.04	0.79	0.64	0.95	1.03	323	327	269	408	448
New Hampshire	188	191	194	182	179	1.03	.98	.82	1.07	.94	194	187	160	195	169
Vermont	223	224	239	218	220	1.22	1.04	.96	1.16	1.06	272	233	230	252	234
Massachusetts	150	184	188	185	187	1.25	1.15	1.10	1.01	1.06	188	212	206	187	198
Rhode Island	15	17	17	16	16	1.07	1.18	1.06	1.00	1.00	16	20	18	16	16
Connecticut	152	169	167	165	166	1.22	.98	1.01	1.05	1.10	185	165	168	174	183
New York	630	600	597	610	615	.89	.98	.95	.89	.83	561	615	565	542	510
New Jersey	26	31	35	28	31	1.31	1.29	1.14	1.46	.90	34	40	40	41	28
Pennsylvania	86	80	90	72	72	1.33	1.22	1.21	1.42	1.14	114	98	109	102	82
Delaware	4	6	7	4	5	1.50	1.33	1.14	1.25	1.50	6	8	8	5	8
Maryland	18	20	26	20	20	1.22	1.25	1.19	1.90	.90	22	25	31	38	18
Virginia	108	105	105	112	103	1.15	1.30	.97	1.15	1.11	124	137	102	129	114
West Virginia	90	99	101	105	100	1.13	1.33	1.35	1.20	1.10	102	132	136	126	120
North Carolina	150	145	142	157	147	.90	1.01	1.31	1.40	1.50	135	147	186	220	221
South Carolina	90	87	80	75	55	.84	.82	.75	1.40	1.00	76	71	60	105	55
Georgia	149	156	148	148	129	.85	.80	.90	.96	.69	127	125	133	143	89
Florida	60	52	52	71	67	.77	.79	1.06	.70	.90	46	41	55	50	60
Ohio	26	26	29	31	30	1.04	1.50	1.34	1.61	1.60	36	39	39	50	48
Indiana	69	66	80	80	70	1.34	1.33	1.18	1.25	1.10	91	88	94	100	77
Illinois	355	314	342	335	344	1.11	1.09	1.17	1.09	1.20	411	343	399	365	413
Michigan	48	40	81	83	87	1.25	1.18	1.31	1.23	1.25	60	47	106	102	109
Wisconsin	60	70	196	75	79	1.57	1.21	1.41	1.20	1.40	94	85	277	90	111
Minnesota	205	186	159	116	128	1.92	1.50	1.57	1.40	1.35	393	279	250	162	173
Iowa	72	62	67	84	70	1.62	1.65	1.63	1.50	1.74	118	102	109	126	122
Missouri	141	137	150	160	173	1.56	1.45	1.41	1.14	1.60	220	208	211	182	280
North Dakota	264	284	368	360	350	1.50	1.18	1.38	1.55	1.56	397	334	507	558	546
South Dakota	95	113	83	75	90	1.62	1.60	1.28	1.63	1.62	154	181	106	122	146
Nebraska	249	182	139	175	208	1.69	1.70	1.76	1.83	2.30	420	309	244	320	478
Kansas	220	220	183	375	426	2.13	2.33	2.36	2.11	2.10	469	514	431	818	894
Kentucky	261	256	234	253	243	1.27	1.31	1.23	1.35	1.20	331	335	288	331	292
Tennessee	372	379	376	334	323	1.12	1.26	1.22	1.23	1.00	439	463	458	412	322
Alabama	230	218	240	220	196	1.07	1.00	1.05	1.14	1.07	250	218	251	251	210
Mississippi	172	150	139	130	143	1.28	1.23	1.08	1.37	1.29	212	184	150	176	186
Louisiana	59	61	42	37	37	1.44	1.15	1.07	1.10	1.20	85	70	45	41	44
Texas	261	283	387	448	532	1.60	1.55	1.41	1.65	1.60	418	426	544	738	851
Oklahoma	363	373	404	506	468	1.62	1.55	1.37	1.64	1.67	589	577	555	786	754
Arkansas	148	165	159	152	154	1.08	1.62	1.13	1.20	1.20	160	267	179	182	185
Montana	76	90	93	82	90	.88	1.45	1.38	1.66	1.56	66	131	128	136	140
Wyoming	67	77	80	60	39	1.07	1.32	1.50	1.35	1.59	72	122	120	81	62
Colorado	125	127	90	88	90	1.34	1.41	1.30	1.33	1.30	168	179	117	117	117
New Mexico	24	23	23	35	34	1.25	1.70	1.52	.60	1.00	40	39	35	20	34
Arizona	10	9	4	8	6	1.50	1.56	1.75	1.50	1.50	15	14	7	12	9
Utah	25	23	17	16	14	1.30	1.10	1.40	1.70	1.69	33	25	24	27	24
Nevada	30	30	28	30	31	1.35	1.50	1.50	1.56	1.32	40	45	42	48	40
Idaho	21	32	30	20	21	1.20	1.40	1.60	1.40	1.45	25	45	48	30	30
Washington	52	53	54	50	51	1.90	1.50	1.50	.90	2.00	99	80	81	102	102
Oregon	82	85	85	77	79	1.60	1.40	1.40	1.50	1.60	131	119	119	116	126
California	26	50	50	50	53	1.16	1.30	1.30	1.10	1.30	30	65	65	55	69
United States	6,658	6,766	7,021	7,143	7,206	1.29	1.26	1.21	1.31	1.32	8,494	8,591	8,505	9,389	9,547

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 328.—*Hay, tame: Condition of crop, 1st of month, and yield per acre, United States, 1908–1923.*

Calendar year.	May.	June.	July.	Aug.	Yield per acre.	Calendar year.	May.	June.	July.	Aug.	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Tons.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Tons.*
1908	93.5	96.8	92.6	92.1	1.53	1916	88.4	90.3	93.4	95.5	1.64
						1917	88.5	84.3	85.1	87.3	1.51
1909	84.5	87.6	87.8	86.8	1.46	1918	90.0	89.5	82.1	83.3	1.37
1910	89.8	85.9	80.2	83.1	1.36	1919	94.0	93.5	90.7	91.2	1.52
1911	84.7	77.4	64.9	68.6	1.14	1920	89.4	87.9	85.5	89.8	1.51
1912	85.7	89.8	85.2	91.0	1.47						
1913	88.5	86.9	80.5	82.3	1.31	Av. 1914–1920	90.1	88.7	86.1	88.7	1.52
Av. 1909–1913	86.6	85.5	79.7	82.4	1.35	1921	91.7	84.2	78.7	82.2	1.40
						1922	90.1	90.9	89.0	91.0	1.57
1914	90.9	87.6	80.8	85.0	1.43	1923	86.8	84.1	80.3	81.0	1.48
1915	89.8	87.8	85.2	89.0	1.68						

Division of Crop and Livestock Estimates.

TABLE 329.—*Hay: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total[1]
	P. ct	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P .ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	10.7	2.2	0.6	1.2	0.1	0.3	0.3	15.7	0.1	0.5	0.1	0.1	17.6
1910	17.4	1.2	.3	1.2	.1	.5	.1	21.2	.1	.5	.2	.1	23.6
1911	27.7	.8	(2)	.9	.1	1.9	(2)	31.9	.1	.6	.1	.1	34.7
1915	3.7	4.9	.6	1.8	.1	.1	.3	11.9	.2	.5	.1	(2)	13.9
1916	5.5	1.0	.3	1.1	.1	.2	.1	8.6	(1)	.3	(1)	(2)	9.6
1917	11.5	1.3	.2	2.9	.2	.3	.1	16.8	.1	.4	.1	(2)	18.3
1918	17.5	.7	.2	2.7	.1	.8	.1	22.7	.1	.9	.1	(2)	24.9
1919	9.9	1.9	.3	1.0	.1	.4	.1	13.9	.1	1.0	(2)	.1	15.5
1920	7.2	1.4	.2	.4	.2	.2	.1	10.8	.2	1.0	------	.1	12.7
1921	15.1	.9	.2	1.4	.2	.7	.2	19.5	.2	.9	.1	------	21.0
1922	------	------	------	------	------	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

[1] Includes all other causes.
[2] Less than 0.05 per cent.

TABLE 330.—*Hay, all: Stocks on farms May 1, United States, 1910–1923.*

Calendar year.	Production of all hay preceding year (tons).	Per cent on farms May 1.	Tons on farms May 1.	Price per ton May 1.	Calendar year.	Production of all hay preceding year (tons).	Per cent on farms May 1.	Tons on farms May 1.	Price per ton May 1.
1910	92,767,000	11.6	10,745,000	$11.08	1917	110,992,000	11.4	12,659,000	$13.94
1911	82,529,000	12.4	10,222,000	11.69	1918	98,439,000	11.7	11,476,000	17.97
1912	67,071,000	8.5	5,732,000	16.31	1919	91,139,000	9.4	8,559,000	22.31
1913	90,734,000	14.9	13,523,000	10.42	1920	104,760,000	10.1	10,618,000	24.22
1914	79,179,000	12.2	9,631,000	11.63	1921	105,315,000	17.8	18,771,000	13.08
1915	88,686,000	12.2	10,797,000	11.03	1922	97,770,000	11.2	10,919,000	12.98
1916	107,263,000	13.5	14,452,000	11.27	1923	112,013,000	12.0	13,392,000	12.69

Division of Crop and Livestock Estimates.

TABLE 331.—*Hay: Receipts at 12 markets, 1910–1923.*

Year beginning July 1.	Baltimore.	Boston.	Chicago.	Kansas City.	Milwaukee.	Minneapolis.	New York.	Peoria.	Philadelphia.	Pittsburgh.	St. Louis.	San Francisco.	Total.
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
1910–11	68, 589	162, 420	273, 983	308, 940	38, 313	66, 306	336, 471	37, 419	86, 851	119, 685	253, 540	184, 594	1, 937, 111
1911–12	69, 284	164, 196	351, 630	318, 948	44, 199	63, 570	286, 474	41, 822	96, 484	115, 608	256, 462	147, 483	1, 956, 160
1912–13	58, 939	139, 920	274, 769	343, 392	47, 138	37, 290	296, 866	38, 131	82, 063	106, 993	222, 998	141, 224	1, 789, 723
1913–14	63, 186	117, 740	369, 032	285, 288	36, 283	38, 280	317, 543	43, 660	75, 630	103, 466	261, 155	133, 598	1, 844, 861
1914–15	54, 904	115, 161	325, 095	398, 604	45, 060	45, 513	330, 098	33, 957	78, 583	83, 923	308, 727	161, 750	1, 981, 375
1915–16	50, 415	126, 590	273, 181	398, 172	34, 637	45, 376	294, 395	31, 299	84, 000	106, 710	232, 628	146, 560	1, 843, 969
1916–17	50, 874	123, 780	237, 932	359, 316	24, 360	35, 652	212, 256	48, 870	78, 284	92, 202	210, 591	104, 468	1, 578, 585
1917–18	64, 053	97, 150	352, 730	419, 964	23, 131	39, 126	199, 727	40, 250	61, 618	74, 075	237, 506	82, 460	1, 691, 790
1918–19	41, 870	67, 000	287, 031	386, 460	16, 656	28, 457	221, 580	35, 050	31, 571	72, 721	213, 043	72, 440	1, 473, 879
1919–20	32, 650	58, 740	225, 050	599, 340	19, 053	22, 601	167, 088	33, 306	52, 466	63, 680	254, 042	85, 807	1, 613, 823
1920–21	19, 559	50, 220	149, 801	337, 169	19, 466	23, 015	150, 338	21, 140	40, 057	79, 062	188, 550	75, 272	1, 153, 649
Av. 1914–1920	44, 904	91, 234	264, 403	414, 146	26, 052	34, 249	225, 069	37, 696	60, 941	81, 768	235, 012	104, 108	1, 619, 581
1921–22	13, 730	51, 250	135, 625	196, 534	19, 038	23, 467	98, 904	10, 970	51, 226	76, 162	121, 104	59, 185	857, 195
1922–23	15, 536	47, 010	152, 632	244, 169	17, 626	25, 972	92, 516	33, 060	42, 188	61, 769	138, 312	60, 017	930, 807
1922.													
July	1, 169	2, 070	9, 906	14, 190	1, 348	2, 244	10, 053	2, 300	4, 044	4, 122	5, 978	4, 547	61, 971
August	1, 780	4, 110	9, 801	21, 978	1, 140	2, 263	6, 000	6, 380	6, 100	5, 506	13, 045	9, 270	87, 433
September	1, 314	3, 890	9, 864	13, 937	1, 080	1, 921	10, 677	3, 750	2, 964	5, 808	9, 712	5, 180	70, 097
October	912	3, 390	14, 443	18, 975	1, 344	2, 193	10, 052	3, 410	3, 924	5, 008	9, 368	3, 159	76, 178
November	781	6, 080	11, 879	31, 438	2, 270	2, 245	9, 532	2, 700	3, 532	6, 944	13, 401	5, 017	95, 819
December	1, 083	2, 790	17, 654	25, 071	1, 520	2, 254	6, 795	2, 610	3, 000	5, 764	11, 664	4, 058	84, 263
1923.													
January	850	3, 110	15, 466	27, 266	1, 788	2, 799	9, 928	2, 290	5, 028	3, 564	12, 754	3, 548	88, 391
February	814	4, 080	9, 884	21, 681	1, 546	2, 141	3, 690	1, 890	2, 676	4, 610	13, 854	2, 829	69, 695
March	1, 022	5, 450	10, 333	27, 456	1, 344	3, 154	8, 089	1, 450	2, 520	5, 466	13, 011	5, 228	84, 523
April	2, 202	4, 820	11, 536	21, 552	1, 320	1, 502	5, 488	2, 710	2, 580	6, 985	12, 858	5, 441	79, 024
May	2, 025	3, 680	17, 156	11, 642	1, 438	1, 667	6, 320	2, 670	2, 772	3, 625	11, 267	4, 799	69, 061
June	1, 584	3, 540	14, 650	8, 953	1, 488	1, 589	5, 892	900	3, 048	4, 367	11, 400	6, 941	64, 352
Total	15, 536	47, 010	152, 632	244, 169	17, 626	25, 972	92, 516	33, 060	42, 188	61, 769	138, 312	60, 017	930, 807
July	1, 452	4, 650	10, 616	15, 224	1, 008	2, 239	7, 730	320	2, 574	3, 652	7, 376	7, 072	63, 913
August	1, 837	1, 930	6, 510	23, 958	996	1, 794	5, 385	3, 950	2, 532	2, 097	10, 228	14, 000	75, 217
September	2, 708	4, 080	11, 724	20, 977	1, 152	1, 800	7, 672	4, 890	2, 700	6, 127	12, 804	6, 676	83, 310
October	2, 834	4, 430	19, 095	21, 582	1, 692	2, 875	9, 306	5, 600	4, 296	9, 218	11, 504	9, 285	101, 717
November	2, 267	3, 150	10, 575	21, 401	2, 472	2, 520	8, 403	2, 670	6, 252	9, 107	13, 200	7, 496	89, 513
December	1, 446	3, 760	10, 334	17, 446	1, 571	3, 516	9, 183	1, 120	4, 620	5, 105	8, 652	8, 640	75, 393
Total	12, 544	22, 000	68, 854	120, 588	8, 891	14, 744	47, 679	18, 550	22, 974	35, 306	63, 764	53, 169	489, 063

Division of Statistical and Historical Research. Compiled from Hay Trade Journal; Annual Reports of San Francisco Merchants' Exchange; Minneapolis Chamber of Commerce Reports and Daily Market Record; Chicago Board of Trade and Daily Trade Bulletin; Kansas City Grain Market Review.

TABLE 332.—*Hay: Shipments from eight markets, 1910–1923.*

Year beginning July 1.	Baltimore.	Chicago.	Kansas City.	Milwaukee.	Minneapolis.	Peoria.	Pittsburgh.	St. Louis.	Total.
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
1910–11	11,864	18,011	93,828	5,958	31,350	10,373	76,631	112,435	360,450
1911–12	13,257	49,160	58,896	4,445	28,910	17,222	75,420	146,285	393,595
1912–13	8,313	22,681	85,176	3,159	4,820	7,819	65,800	105,533	303,301
1913–14	8,995	39,184	78,756	9,718	5,500	16,077	65,148	139,376	362,754
1914–15	8,896	83,414	67,608	17,306	5,390	19,788	37,512	172,590	412,504
1915–16	9,681	55,791	73,668	6,841	4,156	9,676	87,216	90,415	337,444
1916–17	13,657	33,439	138,432	5,765	4,351	15,324	55,032	103,990	369,990
1917–18	26,913	62,665	222,912	5,203	7,042	10,621	20,536	177,240	533,222
1918–19	20,221	52,802	143,040	2,986	4,147	7,650	23,511	119,625	373,982
1919–20	4,118	32,637	276,492	5,270	6,925	6,151	26,267	111,695	469,555
1920–21	.....	18,631	153,648	3,863	2,020	7,100	40,480	63,250	288,992
Av. 1914–1920	.....	48,483	153,686	6,761	4,862	10,901	41,508	119,829	397,956
1921–22	.....	9,700	50,748	10,435	3,531	4,520	31,509	43,610	154,053
1922–23	.....	10,951	78,660	14,879	2,625	3,460	7,323	61,720	179,618
1922.									
July	.....	531	3,636	1,684	35	400	1,198	2,610	10,094
August	.....	323	3,840	1,438	82	480	4,820	3,970	14,953
September	.....	725	3,000	1,171	81	120	1,305	3,465	9,867
October	.....	496	4,704	1,380	172	170	.....	2,970	9,892
November	.....	392	6,492	1,464	228	220	.....	5,315	14,111
December	.....	526	7,644	1,176	307	180	.....	4,320	14,153
1923.									
January	.....	601	14,820	960	289	710	.....	5,910	23,290
February	.....	278	9,540	1,699	283	340	.....	6,120	18,210
March	.....	833	10,716	1,678	341	220	.....	8,415	22,203
April	.....	1,663	8,184	724	426	260	.....	7,720	18,976
May	.....	2,948	4,092	670	154	270	.....	5,660	13,794
June	.....	1,635	1,992	835	278	90	.....	5,245	10,075
Total	.....	10,951	78,660	14,879	2,625	3,460	7,323	61,720	179,618
July	.....	716	5,324	708	90	70	.....	3,657	10,565
August	.....	582	4,488	432	148	50	.....	3,555	9,255
September	.....	1,522	4,896	516	131	180	.....	4,245	11,490
October	.....	358	4,476	382	326	160	.....	3,315	9,017
November	.....	723	6,730	584	286	280	.....	4,555	13,148
December	.....	750	7,968	499	495	100	.....	3,450	13,262
Total	.....	4,651	33,872	3,121	1,476	840	.....	22,777	66,737

Division of Statistical and Historical Research. Compiled from Hay Trade Journal; Chicago Board of Trade, and Daily Trade Bulletin; Kansas City Board of Trade, and Grain Market Review; Minneapolis Daily Market Record; Peoria Board of Trade.

TABLE 333.—*Hay, tame: Farm price per ton December 1, by States, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.[1]
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Maine	14 00	14.70	12.80	14.40	13.70	13.90	13.90	13.10	14.90	12.40	11.10	13.90	18.70	24.60	15.53	20.00	13.10	13.50	17.28
New Hampshire	16.00	17.90	15.80	17.20	15.00	17.20	16.62	17.00	17.40	14.50	12.00	18.80	24.00	25.00	18.39	28.00	19.50	19.00	22.80
Vermont	13.50	14.70	12.40	14.00	14.00	14.50	13.92	14.60	15.50	12.60	11.50	16.30	20.10	23.00	16.23	22.00	17.50	16.50	23.10
Massachusetts	17.00	18.90	19.10	23.00	21.50	21.10	20.72	21.50	22.00	19.00	19.90	26.00	27.00	28.00	23.34	27.00	23.00	26.00	35.62
Rhode Island	17.25	18.60	19.60	24.10	22.20	21.20	21.14	20.20	22.50	20.00	20.30	25.50	32.00	33.20	24.81	27.00	26.50	26.80	33.50
Connecticut	15.75	19.30	19.00	23.50	22.50	20.10	20.88	19.50	20.00	18.50	19.50	24.00	30.20	30.00	23.10	26.00	26.00	24.00	31.68
New York	12.25	14.20	13.70	17.90	14.90	15.30	15.20	14.60	15.70	11.90	15.10	20.40	20.50	23.60	17.40	18.00	14.10	16.20	22.03
New Jersey	14.00	16.50	18.20	22.00	20.00	19.00	19.14	19.50	19.00	17.60	20.00	28.00	29.10	27.50	22.96	18.00	18.10	26.90	28.24
Pennsylvania	12.00	14.60	15.00	20.00	15.60	14.90	16.02	14.50	15.60	13.80	17.50	23.70	24.00	23.50	18.94	17.00	14.30	21.50	22.58
Delaware	12.50	15.00	14.80	22.50	15.00	15.70	16.60	17.00	17.00	15.90	20.50	28.00	26.00	21.50	20.84	17.50	19.00	21.00	24.15
Maryland	12.00	14.40	15.40	22.40	14.40	15.20	16.36	15.30	16.20	14.00	19.90	26.80	24.00	25.00	20.17	15.10	18.50	23.60	24.78
Virginia	12.25	13.30	14.50	20.50	15.20	15.50	15.80	17.20	15.70	15.00	21.30	23.00	23.70	23.50	19.91	17.70	16.00	20.00	20.00
West Virginia	11.00	13.30	15.00	20.00	15.00	14.90	15.64	17.20	15.00	14.50	21.10	23.50	25.60	24.20	20.16	17.50	16.80	19.90	23.88
North Carolina	13.50	14.40	14.60	17.00	16.70	16.50	15.84	17.10	16.50	17.50	19.70	21.00	24.20	23.00	19.84	19.80	18.20	20.00	24.00
South Carolina	14.80	15.50	16.00	17.00	18.00	18.70	17.04	17.00	15.60	16.70	20.60	26.10	31.00	25.00	21.71	20.00	17.50	18.00	15.30
Georgia	14.35	15.80	16.40	17.00	17.00	17.90	16.82	16.20	15.10	16.20	20.00	23.50	25.30	23.50	19.97	15.80	17.00	18.90	12.47
Florida	14.80	15.00	17.00	18.50	18.10	18.20	17.36	17.20	16.00	16.00	18.20	18.50	23.00	19.00	18.27	19.50	18.50	20.00	18.00
Ohio	8.70	10.90	12.50	18.90	13.00	12.80	13.62	13.40	12.70	10.60	19.00	22.20	21.80	19.50	17.03	11.50	10.80	16.70	20.04
Indiana	8.80	10.50	11.90	16.80	11.40	14.10	12.94	14.10	11.00	10.90	18.70	19.80	21.60	19.30	16.49	13.00	11.20	15.60	19.84
Illinois	8.20	9.90	12.00	17.00	12.60	14.10	13.12	14.40	10.80	11.30	20.00	21.00	21.40	20.60	17.07	13.50	12.50	14.80	19.24
Michigan	8.75	11.40	13.60	17.00	12.70	13.10	13.56	12.00	12.20	10.00	17.20	23.50	23.40	21.00	17.04	13.00	10.10	14.50	18.27
Wisconsin	8.00	9.60	15.10	15.60	12.10	11.10	12.70	9.30	9.90	11.60	17.30	21.60	20.30	20.40	15.77	15.40	12.30	16.00	21.28
Minnesota	5.40	6.00	9.10	11.90	6.40	6.60	8.00	6.10	6.40	7.00	12.10	14.10	14.50	11.20	10.20	8.60	10.70	11.30	14.12
Iowa	5.70	7.10	9.60	12.50	9.50	9.60	9.66	10.10	8.70	9.00	16.80	18.20	17.40	16.24	13.78	9.30	10.00	12.50	18.88
Missouri	7.00	8.30	9.20	13.30	9.80	14.50	11.02	13.60	8.50	9.30	17.50	20.50	19.50	15.70	14.94	9.80	11.50	12.00	14.64
North Dakota	4.80	5.00	7.60	7.00	5.50	5.80	6.18	5.20	5.70	6.00	11.50	14.60	14.10	9.90	9.57	7.70	7.50	6.80	10.20
South Dakota	4.10	5.10	7.10	8.50	6.10	6.50	6.66	5.70	5.30	5.40	10.60	10.00	13.50	8.50	8.43	6.40	7.50	8.10	13.36
Nebraska	4.90	6.00	8.90	9.70	8.40	8.70	8.34	6.90	5.80	7.10	15.20	17.20	14.00	9.00	10.74	7.00	11.20	10.20	24.79
Kansas	5.70	6.00	7.80	9.90	7.60	12.50	8.76	7.40	5.60	7.60	16.60	19.40	15.80	10.20	11.80	8.00	9.30	10.60	23.43
Kentucky	11.00	11.90	13.10	17.30	13.70	16.50	14.50	16.00	12.50	12.60	20.30	23.70	25.40	22.00	18.93	15.50	14.50	17.00	17.85

TABLE 333.—*Hay, tame: Farm price per ton December 1, by States, calendar years, 1908–1923, and value per acre, 1923*—Continued.

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre, 1923.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Tennessee	11.80	12.80	13.40	16.70	15.80	16.20	14.98	17.00	13.90	15.00	19.30	24.00	27.00	20.50	19.53	15.50	16.40	18.50	21.28
Alabama	12.50	13.50	13.20	12.80	14.60	14.20	13.66	13.80	12.40	13.00	16.20	20.30	22.30	19.50	16.79	15.60	17.00	18.50	14.96
Mississippi	11.00	11.50	12.20	11.00	12.50	13.50	12.14	12.00	11.00	11.00	15.30	18.50	20.50	17.20	15.07	14.50	14.50	15.50	19.38
Louisiana	11.00	10.70	11.50	12.00	12.70	12.50	11.88	12.00	10.30	11.00	14.30	21.20	23.00	16.00	15.40	14.00	13.30	15.00	24.00
Texas	8.25	11.90	12.00	11.90	10.40	11.80	11.60	9.80	7.90	10.50	20.00	24.90	18.00	13.40	14.93	9.90	11.50	16.00	26.40
Oklahoma	5.00	7.30	8.40	8.00	7.40	10.40	8.30	7.90	5.60	9.00	15.40	19.50	15.10	10.50	11.86	8.20	12.50	14.30	22.88
Arkansas	9.75	10.80	11.00	13.00	12.00	13.50	12.06	12.90	10.30	12.50	15.40	19.50	20.50	16.00	15.30	12.50	13.60	16.00	20.48
Montana	8.35	10.00	12.50	10.00	8.30	9.60	10.08	8.70	7.50	11.00	18.60	19.60	23.00	12.00	14.34	8.70	9.00	8.90	16.73
Wyoming	7.40	8.90	12.50	10.30	8.60	6.70	9.40	7.50	7.80	12.00	17.00	14.00	23.00	12.00	13.33	7.50	8.50	9.60	18.24
Colorado	8.75	10.00	10.80	9.30	8.70	10.00	9.76	7.40	7.60	11.00	16.60	15.50	18.50	12.00	12.66	6.90	11.20	11.30	22.60
New Mexico	9.50	11.10	11.50	13.00	8.50	12.10	11.24	9.30	8.80	14.00	21.00	20.00	18.20	17.00	15.47	12.70	19.50	16.00	33.60
Arizona	12.20	12.80	13.00	12.00	12.00	11.00	12.16	8.80	9.60	14.50	24.80	24.00	20.00	29.00	18.67	13.00	18.00	15.00	52.50
Utah	7.40	9.00	9.00	9.00	8.00	9.10	8.82	7.70	8.00	15.00	15.00	17.10	21.90	13.00	13.96	6.20	8.20	8.90	23.94
Nevada	8.80	10.50	10.80	9.50	8.70	11.00	10.10	8.30	7.80	9.60	15.90	19.90	19.60	16.00	13.83	9.00	11.80	11.00	29.15
Idaho	7.10	9.10	9.00	7.60	6.30	7.20	7.84	7.30	7.70	12.10	16.00	17.60	22.00	12.50	13.60	6.70	10.00	8.90	22.25
Washington	11.00	14.00	15.70	12.00	10.10	10.90	12.54	11.00	10.80	13.80	20.00	25.40	23.00	18.50	17.50	10.50	16.20	12.00	28.20
Oregon	9.30	11.70	12.10	9.60	8.30	9.00	10.14	9.20	9.50	10.90	17.50	20.00	19.10	14.50	14.39	9.80	13.60	11.00	24.75
California	13.25	11.50	9.60	10.90	13.70	13.50	11.84	8.20	11.20	12.60	19.20	20.00	17.20	20.00	15.49	11.00	15.00	14.00	35.70
United States	9.14	10.58	12.14	14.29	11.79	12.43	12.25	11.12	10.63	11.22	17.09	20.13	20.08	17.76	15.43	12.11	12.56	14.07	20.83

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 334.—*Hay, tame: Farm price per ton, 1st of month, United States, 1908–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	Weighted av., crop year.
1908–9	$9.79	$9.28	$9.18	$9.23	$9.22	$9.02	$9.09	$9.27	$9.47	$9.65	$10.12	$10.70	$9.43
1909–10	10.50	9.74	9.67	10.03	10.35	10.50	11.37	12.35	12.71	12.73	12.21	11.80	11.04
1910–11	11.71	11.29	11.87	11.82	11.96	12.14	12.24	12.29	12.09	11.89	12.29	13.16	12.03
1911–12	13.99	14.67	14.61	14.50	14.62	14.29	14.85	15.44	15.69	16.79	17.64	17.54	15.22
1912–13	15.57	12.98	12.14	11.76	11.80	11.79	11.86	11.64	11.34	11.15	11.13	11.30	12.06
1913–14	11.19	11.16	11.89	12.22	12.26	12.43	12.42	12.41	12.37	12.20	12.32	12.34	12.10
Av. 1909–1913	12.59	11.97	12.04	12.07	12.20	12.23	12.55	12.83	12.84	12.95	13.12	13.23	12.49
1914–15	12.01	11.52	11.91	11.77	11.57	11.12	11.29	11.69	11.71	11.74	11.82	11.96	11.65
1915–16	11.70	11.02	10.80	10.69	10.83	10.63	10.94	11.40	11.62	11.78	12.22	12.46	11.25
1916–17	12.09	10.68	10.42	10.36	10.68	11.22	11.49	11.96	12.14	13.05	14.44	15.25	11.76
1917–18	14.56	13.42	13.68	14.29	15.66	17.09	18.56	19.43	19.80	19.40	18.63	17.75	16.69
1918–19	16.60	16.40	17.94	19.15	20.01	20.13	20.49	20.45	20.35	21.05	22.95	23.92	19.79
1919–20	22.65	20.97	21.27	20.54	20.09	20.08	21.23	22.54	23.26	24.03	25.37	26.11	22.02
1920–21	24.86	22.07	20.96	20.05	18.50	17.76	17.10	16.20	15.22	14.51	13.84	13.30	18.13
Av. 1914–1920	16.35	15.15	15.28	15.26	15.33	15.43	15.87	16.24	16.30	16.51	17.04	17.25	15.90
1921–22	12.91	12.47	12.44	12.11	11.88	12.11	11.98	12.06	12.40	12.86	13.59	13.32	12.43
1922–23	12.59	11.58	11.17	11.38	11.54	12.56	12.39	12.70	12.50	12.95	13.22	13.51	12.25
1923–24	13.06	12.46	12.71	13.07	13.12	14.07	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 335.—*Hay, alfalfa: Farm price per ton, 15th of month, United States, 1914–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av., crop year.
1914–15	$8.65	$8.38	$8.72	$8.96	$9.20	$9.05	$9.48	$9.32	$9.79	$9.81	$9.58	$8.50	$9.12
1915–16	8.28	8.28	8.22	8.14	8.72	9.52	9.89	10.35	10.74	10.73	10.56	10.49	9.39
1916–17	9.87	9.80	10.06	10.25	11.37	12.31	12.79	13.63	14.68	17.68	17.92	16.77	12.76
1917–18	14.13	15.28	16.33	17.59	19.19	20.39	21.27	21.38	20.82	18.97	17.84	16.74	18.42
1918–19	16.58	18.22	19.72	20.23	20.42	20.74	20.42	20.91	21.40	22.28	23.32	20.89	20.35
1919–20	20.15	20.72	20.89	20.56	21.63	22.95	24.13	24.41	24.68	24.57	25.68	24.20	22.70
1920–21	21.70	20.43	19.12	18.03	17.10	16.59	14.98	13.55	12.88	11.35	10.88	10.64	15.96
1921–22	9.85	9.66	9.86	9.82	9.67	10.46	10.55	11.04	11.80	12.39	12.28	10.98	10.58
1922–23	10.61	10.54	11.15	11.87	12.70	13.31	14.06	14.02	14.33	14.09	14.40	13.63	12.82
1923–24	12.45	12.01	12.78	13.37	13.59	14.39	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 336.—*Hay, clover: Farm price per ton, 15th of month, United States, 1914–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av., crop year.
1914–15	$11.85	$12.09	$12.44	$12.47	$12.70	$12.76	$13.07	$13.36	$13.41	$13.65	$13.79	$12.78	$12.83
1915–16	11.65	10.87	10.82	10.60	10.59	10.95	11.24	11.41	11.70	11.87	12.52	12.46	11.29
1916–17	10.84	9.93	10.01	10.08	10.46	10.86	11.38	11.65	11.90	13.06	13.94	14.22	11.33
1917–18	12.95	12.76	13.79	15.01	17.14	18.67	19.82	21.11	21.37	19.68	18.30	16.54	17.21
1918–19	15.73	17.18	19.27	20.60	21.13	21.26	21.69	21.11	21.25	23.36	25.33	25.48	20.93
1919–20	22.02	21.58	21.74	21.17	21.61	22.60	23.78	24.94	26.13	26.93	28.31	27.80	23.69
1920–21	24.62	22.82	22.57	21.29	20.60	19.96	19.17	17.39	16.44	15.47	14.90	14.52	19.48
1921–22	13.89	14.17	14.37	13.99	13.83	14.17	13.90	14.10	14.06	14.51	14.90	14.33	14.15
1922–23	12.82	12.66	12.54	12.51	12.67	13.03	13.39	13.35	13.24	13.47	13.58	13.70	13.03
1923–24	13.52	13.51	14.12	14.73	14.94	15.82	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 337.—*Hay, timothy: Farm price per ton, 15th of month, United States, 1914–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av., crop year.
1914–15	$13.06	$13.09	$13.54	$13.66	$13.69	$13.69	$14.07	$14.28	$14.28	$14.53	$14.74	$14.33	$13.87
1915–16	13.43	12.39	12.32	12.14	12.24	12.73	13.11	13.39	13.61	14.00	14.50	14.71	13.09
1916–17	12.97	11.74	11.57	11.54	12.03	12.29	12.61	12.91	13.20	14.26	15.31	15.76	12.83
1917–18	14.68	14.11	14.89	16.23	18.33	20.31	21.37	22.25	22.53	21.47	20.40	18.55	18.67
1918–19	17.61	18.96	20.85	22.60	22.93	22.94	23.48	22.69	22.68	24.74	27.27	27.50	22.66
1919–20	24.22	23.89	23.65	23.04	22.90	23.71	24.59	25.49	26.75	27.99	29.92	30.05	25.13
1920–21	26.59	24.35	24.15	22.74	22.09	21.22	19.88	18.30	17.04	16.09	15.44	15.16	20.64
1921–22	14.51	15.01	14.83	14.39	14.22	14.31	14.51	14.77	15.06	15.52	16.10	15.75	14.82
1922–23	14.33	13.61	13.44	13.70	13.93	13.91	14.41	14.46	14.59	14.64	14.96	14.95	14.18
1923–24	14.86	14.68	15.13	16.22	16.78	16.95	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 338.—*Hay, prairie: Farm price per ton, 15th of month, United States, 1914–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av., crop year.
1914–15	$7.49	$7.29	$7.33	$7.59	$7.47	$7.37	$7.65	$7.86	$8.03	$8.58	$8.29	$7.72	$7.69
1915–16	7.37	6.83	6.64	6.44	6.75	6.95	7.38	7.34	7.39	7.56	7.71	7.97	7.13
1916–17	7.25	6.96	7.21	7.26	7.85	8.14	8.58	8.60	9.32	10.94	12.02	11.84	8.61
1917–18	10.11	10.82	11.40	12.29	13.32	14.91	15.39	15.74	15.47	14.47	12.75	12.78	13.31
1918–19	12.51	13.26	14.35	15.06	15.47	16.30	16.33	16.35	17.38	18.85	20.22	18.71	16.03
1919–20	16.10	16.19	15.90	15.88	16.91	17.19	17.54	17.36	16.52	16.66	18.06	17.59	16.78
1920–21	15.38	13.74	12.93	11.83	11.47	10.80	10.20	9.46	8.70	8.43	8.05	8.02	10.94
1921–22	7.67	7.50	7.52	6.78	7.49	7.47	7.39	7.67	7.94	8.02	8.24	8.40	7.62
1922–23	7.68	7.76	7.54	7.74	8.13	8.98	9.44	9.52	9.61	9.74	10.64	10.07	8.79
1923–24	9.17	8.97	8.58	9.19	9.07	9.26	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 339.—*Hay, alfalfa No. 1, Kansas City: Monthly average price per ton, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	$12.08	$13.50	$13.89	$14.25	$14.25	$14.23	$13.51	$12.93	$13.07	$13.67	$13.29	$12.38	$13.42
1911–12	15.13	14.44	14.87	15.00	15.27	15.50	17.72	18.37	20.49	22.73	19.34	11.62	16.71
1912–13	12.59	13.00	13.58	15.11	15.11	15.00	14.79	12.80	14.06	13.75	13.28	10.70	13.65
1913–14	12.12	14.80	16.14	16.54	16.00	16.01	15.96	15.25	15.18	15.30	15.54	14.23	15.26
1914–15	12.38	13.42	13.33	12.51	13.21	13.79	13.75	13.73	14.75	15.11	13.73	13.42	13.59
1915–16	11.54	11.90	12.25	13.11	12.83	14.35	14.54	15.34	13.92	14.44	14.45	11.42	13.34
1916–17	11.29	13.40	13.58	15.68	18.50	19.33	19.81	20.25	21.10	24.33	24.52	21.87	18.64
1917–18	21.18	24.09	24.07	27.43	31.10	32.76	30.01	31.33	27.56	24.11	22.64	20.57	26.40
1918–19	22.60	29.08	31.45	30.14	31.21	31.01	32.85	31.01	34.56	37.90	36.20	36.43	32.04
1919–20	26.93	27.63	24.86	30.24	33.39	35.10	35.75	34.83	33.79	34.10	35.46	31.75	31.99
1920–21	27.21	29.49	27.22	23.95	25.05	23.01	23.30	20.30	20.30	21.00	22.20	18.40	23.45
Av. 1914–1920	19.02	21.29	20.97	21.87	23.61	24.19	24.29	23.83	23.71	24.43	24.17	21.98	22.78
1921–22	17.50	19.00	17.20	19.80	20.40	19.60	20.00	19.60	22.10	22.50	22.10	15.40	19.60
1922–23	15.50	15.80	18.30	22.60	23.80	23.00	23.40	23.70	24.60	26.25	25.90	22.90	22.15
1923–24	18.90	20.90	22.80	24.90	24.80	24.90	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Kansas City Daily Price Current and Kansas City Grain Market Review.

TABLE 340.—*Hay, prairie No. 1, Kansas City: Monthly average price per ton, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	$10.83	$10.82	$11.67	$11.34	$11.16	$10.86	$11.07	$10.95	$10.84	$11.31	$11.55	$13.61	$11.33
1911–12	15.93	12.93	11.50	11.60	12.07	12.61	13.84	13.66	16.70	20.85	20.48	15.16	14.78
1912–13	8.79	7.96	8.39	8.96	8.91	9.39	10.45	9.37	9.19	9.56	9.53	9.97	9.21
1913–14	10.60	13.62	15.76	16.00	15.66	15.57	14.20	14.50	14.40	16.00	16.42	15.43	14.85
1914–15	12.10	9.96	11.58	11.35	10.94	10.98	11.25	10.89	11.26	11.41	11.02	11.03	11.15
1915–16	11.32	8.65	8.63	9.71	9.54	8.97	8.84	9.15	8.96	9.50	9.74	8.65	9.30
1916–17	8.50	8.06	9.36	9.47	10.74	11.15	10.57	10.92	12.92	18.68	19.74	20.57	12.56
1917–18	18.14	18.57	18.06	19.60	25.07	25.47	24.00	23.79	23.42	21.13	19.17	17.66	21.17
1918–19	19.26	25.25	26.57	27.58	26.84	24.04	28.25	26.82	32.35	36.63	38.91	37.34	29.15
1919–20	20.89	19.98	19.32	19.75	21.12	25.34	21.40	20.68	20.64	21.70	24.02	18.95	21.15
1920–21	17.21	19.52	18.47	16.45	16.13	14.49	14.00	13.10	14.10	13.70	14.10	13.40	15.39
Av. 1914–1920	15.35	15.71	16.00	16.27	17.20	17.21	16.90	16.48	17.66	18.96	19.53	18.23	17.12
1921–22	12.30	11.40	11.30	12.40	12.00	11.30	11.10	10.30	11.50	11.90	12.40	11.90	11.65
1922–23	12.90	10.70	11.00	14.00	14.20	12.70	12.60	13.25	14.60	19.10	19.10	18.60	14.40
1923–24	11.80	11.50	13.80	14.60	14.75	14.75	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Kansas City Daily Price Current and Kansas City Grain Market Review.

TABLE 341.—*Hay, timothy No. 1, Chicago: Monthly average price per ton, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	$18.75	$19.50	$17.25	$17.25	$17.50	$17.50	$18.00	$16.25	$16.25	$17.75	$21.00	$21.75	$18.23
1911–12	23.50	21.50	20.00	20.50	21.25	21.00	21.75	20.75	21.50	24.00	26.00	21.25	21.92
1912–13	19.75	18.50	18.50	18.00	17.00	15.50	15.75	14.25	14.75	15.50	15.25	14.25	16.43
1913–14	15.00	17.75	17.75	18.00	17.00	16.25	15.50	14.75	15.25	16.00	16.25	15.25	16.23
1914–15	16.25	16.75	15.50	15.25	15.50	15.50	16.25	15.50	15.25	16.25	17.00	17.50	16.04
1915–16	19.25	20.25	19.00	17.00	15.50	15.50	16.25	15.50	16.75	18.75	18.75	18.00	17.54
1916–17	16.00	16.00	15.50	16.25	16.25	16.25	15.50	15.75	15.75	18.00	20.50	18.75	16.71
1917–18	17.75	19.25	21.00	25.00	27.25	27.00	28.25	29.00	28.00	24.00	23.00	19.00	24.04
1918–19	21.50	26.50	32.00	31.00	30.00	30.00	29.50	26.00	30.50	33.50	35.50	33.00	29.92
1919–20	34.50	35.00	29.00	28.00	29.50	30.00	32.50	34.00	35.25	43.00	46.50	42.75	35.00
1920–21	38.50	40.25	33.75	32.25	32.00	28.50	26.90	24.40	25.30	23.80	21.90	22.50	29.17
Average, 1914–1920	23.39	24.86	23.68	23.54	23.71	23.25	23.59	22.88	23.83	25.33	26.16	24.50	24.06
1921–22	24.40	24.00	24.20	22.60	22.90	21.90	22.50	21.80	23.60	26.80	25.70	23.60	23.67
1922–23	24.50	22.00	20.90	22.40	23.00	21.10	21.75	21.50	23.00	23.00	23.10	24.00	22.52
1923–24	24.00	25.20	26.60	26.50	26.80	27.10	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and Daily Trade Bulletin.

TABLE 342.—*Hay: Monthly average price per ton at three markets, 1923.*

CHICAGO.

Grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Alfalfa No. 1	$23.75	$23.00	$23.00	$23.00	$23.00	$23.20	$23.00	$23.40	$25.25	$26.25	$27.40	$28.75	$24.42
Alfalfa, standard	20.00	20.00	20.00	20.00	20.75	20.40	19.50	21.00	21.50	22.25	23.40	23.25	21.00
Alfalfa No. 2	17.25	16.75	17.00	17.00	17.00	17.80	16.75	18.80	18.50	18.75	20.40	20.50	18.04
Clover No. 1	15.50	15.50	15.80	16.00	16.00	16.80	17.25	19.00	20.50	22.00	22.80	23.00	18.35
Clover No. 1, light	18.25	18.50	19.80	20.00	19.25	21.20	21.75	23.30	24.75	24.50	25.20	25.40	21.82
Clover No. 2, light	------	------	------	------	------	18.30	19.25	20.60	22.00	22.00	22.40	22.75	------
Clover No. 1, medium	------	16.50	16.80	17.00	17.00	18.40	19.70	20.60	20.50	21.50	22.40	22.00	------
Prairie Midland No. 1	13.75	11.25	12.40	12.00	12.00	14.20	13.00	15.00	15.25	14.75	14.80	14.00	13.88
Prairie Upland No. 1	16.75	16.00	17.00	17.75	18.00	19.60	18.90	18.00	19.75	19.50	19.60	19.75	18.38
Prairie Upland No. 2	14.25	13.00	14.20	15.00	15.00	17.40	17.00	16.60	17.75	16.10	17.20	17.00	15.88
Timothy No. 1	21.75	21.50	23.00	23.00	23.10	24.00	24.00	25.20	26.60	26.50	26.80	27.10	24.38
Timothy No. 2	18.00	17.50	19.00	19.00	18.25	20.50	20.50	22.40	24.25	24.10	24.40	24.25	21.01

TABLE 342.—*Hay: Monthly average price per ton at three markets, 1923*—Con.

KANSAS CITY.

Grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Alfalfa No. 1	$23.40	$23.70	$24.60	$26.25	$25.90	$22.90	$18.90	$20.90	$22.80	$24.90	$24.80	$24.90	$23.66
Alfalfa, standard	20.10	20.40	22.40	23.80	24.40	20.60	16.80	19.00	20.40	23.00	22.40	22.30	21.30
Alfalfa No. 2	16.70	17.70	19.20	20.60	19.90	16.70	14.10	15.70	16.90	19.25	18.80	18.70	17.85
Clover No. 1	15.50	15.75	16.40	18.40	18.90	18.75	14.30	15.70	19.00	19.00	19.00	18.50	17.43
Clover No. 1, mixed	14.10	14.60	15.80	18.70	18.90	19.00	14.20	13.00	14.75	15.50	16.10	16.75	15.95
Clover No. 1, light	16.00	16.00	16.80	19.50	19.80	19.80	15.60	13.90	16.00	17.00	17.70	18.00	17.18
Prairie Upland No. 1	12.60	13.25	14.60	19.10	19.10	18.60	11.80	11.50	13.80	14.60	14.75	14.75	14.87
Prairie Upland No. 2	11.10	11.60	13.40	17.60	16.75	16.60	10.60	10.60	12.60	13.70	13.40	13.40	13.45
Timothy No. 1	15.90	15.90	17.30	19.60	19.90	20.20	15.80	14.10	16.40	17.50	18.40	18.50	17.46
Timothy No. 2	13.25	13.00	15.40	18.70	18.00	18.40	13.00	11.90	13.50	14.50	14.75	16.25	15.10

ST. LOUIS.

Alfalfa No. 1	$28.50	$26.00	$28.75	------	$25.75	------	------	$26.00	$29.50	$28.00	$31.30	$31.30	------
Alfalfa, standard	------	23.00	23.00	$24.00	------	$29.00	------	------	25.00	------	28.00	27.00	------
Alfalfa No. 2	------	------	18.00	------	------	19.00	------	------	20.00	19.00	21.75	21.00	------
Clover No. 1	18.10	17.00	18.70	20.10	21.40	22.20	$20.25	24.50	24.50	25.70	27.90	29.75	$22.51
Clover No. 1, mixed	------	------	------	20.00	------	------	------	------	22.00	24.00	23.00	------	------
Clover No. 1, light	------	------	20.00	------	22.00	23.00	------	16.00	------	24.00	24.00	24.50	------
Prairie Midland No. 1	17.00	16.75	18.20	19.75	22.00	23.00	16.50	16.50	16.80	19.30	19.20	19.50	18.71
Prairie Upland No. 1	------	16.00	------	------	------	23.00	19.00	------	------	------	18.25	------	------
Prairie Upland No. 2	16.00	------	------	------	21.00	20.00	------	------	------	------	------	17.00	------
Timothy No. 1	20.50	19.30	21.30	22.75	23.75	24.20	21.40	22.20	24.40	26.40	24.70	26.60	23.12
Timothy No. 2	16.90	16.00	17.50	18.70	18.90	20.25	18.00	19.70	19.10	21.25	19.80	22.90	19.08

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division.

TABLE 343.—*Hay: Average price per ton, 1923.*

No. 1 ALFALFA.
(14 markets.)

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Atlanta	$32.50	$35.75	$35.00	$35.90	$35.00	$31.80	$31.25	$31.40	$34.75	$33.75	$35.80	$36.25	$34.10
Chicago	23.75	23.00	23.00	23.00	23.00	23.20	23.00	23.40	25.25	26.25	27.40	28.75	24.42
Cincinnati	23.25	22.25	25.30	24.25	23.25	20.20	20.75	22.60	26.40	28.00	29.60	29.00	24.57
Jacksonville	------	35.50	34.00	30.00	31.00	30.00	29.00	28.00	------	------	------	------	------
Kansas City	23.40	23.70	24.60	26.25	25.90	22.90	18.90	20.90	22.80	24.90	24.80	24.90	23.66
Los Angeles	22.25	21.75	21.60	22.00	20.00	22.00	21.25	18.60	20.00	21.00	23.20	24.75	21.53
Memphis	30.60	30.50	31.40	31.50	32.50	29.25	23.10	26.20	30.50	29.25	32.20	32.75	29.98
Minneapolis	22.40	21.40	21.20	21.75	22.00	20.75	21.00	24.00	23.25	23.75	23.60	22.90	22.33
New Orleans	33.00	------	30.80	30.70	31.90	26.50	27.25	29.00	31.40	32.30	34.25	34.50	------
Omaha	20.70	20.50	20.60	21.40	21.50	20.70	16.40	17.30	19.25	20.00	21.10	20.25	19.98
Richmond	22.50	23.00	23.30	23.00	22.90	23.20	24.00	26.00	28.50	29.25	31.75	34.00	25.95
St. Louis	28.50	26.00	28.75	------	25.75	------	------	26.00	29.50	28.00	31.30	31.30	------
San Francisco	18.75	17.75	18.00	17.50	17.00	16.40	16.00	16.25	16.00	16.00	16.60	21.00	17.27
Savannah	------	------	------	------	------	27.75	28.00	25.00	36.00	------	33.75	34.00	------

No. 1 CLOVER.
(8 markets.)

Baltimore	------	------	$16.70	$16.75	$16.60	$17.25	$17.75	$19.80	$21.40	$21.50	------	------	------
Chicago	$15.50	$15.50	15.80	16.00	16.00	16.80	17.25	19.00	20.50	22.00	$22.80	$23.00	$18.35
Cincinnati	15.90	15.75	17.20	17.90	16.75	17.20	17.00	19.50	23.50	25.50	26.90	26.25	19.95
Kansas City	15.50	15.75	16.40	18.40	18.90	18.75	14.30	15.70	19.00	19.00	19.00	18.50	17.43
Minneapolis	16.00	15.20	15.00	15.00	15.10	14.10	15.00	16.10	17.50	17.50	17.80	17.50	15.98
Pittsburgh	16.75	16.90	17.90	17.40	17.00	17.00	17.40	20.00	22.00	25.25	25.90	25.50	19.92
Richmond	20.50	20.00	21.00	19.50	20.00	20.00	20.75	22.90	24.80	25.40	28.30	28.60	22.65
St. Louis	18.10	17.00	18.70	20.10	21.40	22.20	20.25	24.50	24.50	25.70	27.90	29.75	22.51

TABLE 343.—*Hay: Average price per ton, 1923*—Continued.

No. 1 TIMOTHY.
(17 markets.)

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Atlanta	$24.75	$24.50	$25.75	$26.90	$26.00	$26.20	$20.10	$26.40	$28.75	$29.25	$29.30	$30.90	$27.07
Baltimore	------	------	21.20	21.25	21.90	22.40	23.40	26.30	27.50	27.00	------	------	------
Boston	26.00	26.50	25.80	25.80	25.90	27.00	25.60	27.70	28.10	28.40	29.10	29.60	27.12
Buffalo	------	22.50	22.50	22.80	22.40	19.50	18.00	------	------	------	------	------	------
Chicago	21.75	21.50	23.00	23.00	23.10	24.00	24.00	25.20	26.60	26.50	26.80	27.10	24.38
Cincinnati	17.75	17.60	19.60	20.25	20.60	20.20	21.10	22.10	22.75	24.75	24.30	24.40	21.28
Jacksonville	24.50	24.00	25.60	26.30	26.10	26.60	25.60	26.50	28.50	------	------	------	------
Kansas City	15.90	15.90	17.30	19.60	19.90	20.20	15.80	14.10	16.40	17.50	18.40	18.50	17.46
Memphis	22.60	22.25	23.90	25.10	24.25	26.25	23.75	23.00	25.75	25.00	25.70	27.00	24.55
Minneapolis	16.40	16.10	16.50	17.10	17.75	17.40	17.75	18.75	20.25	19.75	19.60	18.75	18.01
New Orleans	24.50	------	25.60	26.40	27.40	28.25	26.50	24.70	26.20	27.80	29.20	30.75	------
New York	24.40	26.00	28.00	26.75	26.40	26.50	27.25	30.40	29.25	29.90	29.90	30.10	27.90
Philadelphia	23.00	22.90	23.00	23.00	23.00	23.40	24.60	27.40	28.75	28.00	28.70	28.90	25.39
Pittsburgh	19.50	19.60	21.20	20.75	21.50	21.75	22.50	25.30	24.75	26.50	26.30	26.50	23.01
Richmond	22.50	22.00	23.10	23.50	23.00	23.80	24.40	26.75	26.80	27.75	29.40	28.50	25.12
St. Louis	20.50	19.30	21.30	22.75	23.75	24.20	21.40	22.20	24.40	26.40	24.70	26.60	23.12
Savannah	24.25	24.00	26.20	26.75	26.50	27.30	27.50	27.00	29.40	31.00	32.40	33.25	27.96

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division.

PASTURE.

TABLE 344.—*Pasture: Condition, 1st of month, United States, 1866–1923.*

Calendar year.	May.	June.	July.	Aug.	Calendar year.	May.	June.	July.	Aug.	Sept.	Oct.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1866	------	87.0	99.1	104.0	1897	93.4	96.7	97.0	95.3	------	------
1867	------	101.0	116.2	110.6	1898	91.2	90.5	100.0	88.5	------	------
1868	------	109.1	108.6	96.5	1899	83.5	91.6	87.8	89.7	------	------
1869	------	105.7	112.8	113.1	1900	91.3	90.8	83.9	85.7	------	------
1870	------	100.1	91.0	87.7	1901	91.5	95.5	90.4	72.1	------	------
1871	------	96.4	94.5	92.2	1902	84.9	91.6	93.3	97.1	------	------
1872	------	93.4	99.1	101.4	1903	92.0	84.3	92.6	94.9	------	------
1873	------	99.0	93.2	96.1	1904	80.5	95.4	95.8	95.5	------	------
1874	------	90.0	99.6	92.6	1905	92.3	95.9	97.0	96.1	------	------
1875	------	89.6	96.9	101.6	1906	91.4	88.0	89.6	87.7	------	------
1876	------	104.9	105.7	104.3	1907	79.6	80.6	88.9	91.7	------	------
1877	------	99.4	101.8	100.2	1908	92.6	97.7	94.6	86.4	------	------
1878	------	108.6	109.0	102.5							
1879	------	88.7	90.9	91.8	1909	80.1	89.3	93.1	84.8	------	------
1880	------	94.0	93.9	94.8	1910	89.3	88.5	81.6	73.0	------	------
					1911	81.3	81.8	69.6	59.6	------	------
1881	------	102.4	102.6	94.4	1912	81.7	93.7	84.9	86.6	------	------
1882	91.1	92.2	102.0	103.1	1913	87.1	89.2	81.2	73.7	------	------
1883	93.9	98.7	99.9	104.2							
1884	94.7	99.8	97.1	96.3	Av. 1909–1913	83.9	88.5	82.1	75.5	------	------
1885	90.0	93.8	95.2	93.3							
					1914	88.3	89.8	82.1	76.2	------	------
1886	100.0	101.7	95.5	80.7	1915	87.2	91.3	91.3	96.1	96.5	96.5
1887	91.8	92.6	86.7	73.8	1916	85.2	93.4	97.7	86.9	80.4	76.9
1888	84.9	91.8	92.6	92.3	1917	81.9	83.8	89.9	85.5	82.4	78.4
1889	96.6	97.6	96.6	99.0	1918	83.1	92.5	84.5	75.4	69.9	77.3
1890	93.0	96.1	96.4	82.4	1919	90.3	97.4	95.2	83.9	80.2	78.2
					1920	79.8	88.8	89.5	86.3	86.2	86.2
1891	97.8	90.5	92.3	92.2							
1892	87.5	95.9	98.4	95.0	Av. 1914–1920	85.1	91.0	90.0	84.3	82.9	82.2
1893	87.2	93.4	94.0	82.3							
1894	92.7	92.0	83.2	66.0	1921	91.8	90.1	80.8	74.3	81.6	84.8
1895	89.7	88.1	78.7	77.8	1922	84.5	93.8	89.0	87.9	81.3	76.0
					1923	77.0	84.8	85.5	77.6	78.8	83.1
1896	93.2	94.5	91.0	93.9							

Division of Crop and Livestock Estimates.

HOPS.

TABLE 345.—*Hops: Acreage, production, and farm value, United States, 1915–1923; by States, 1922 and 1923.*

Calendar year, and State.	Acreage.		Average yield in pounds per acre.		Production, thousands of pounds.		Average farm price, cents per pound, Dec. 1.		Farm value, thousands of dollars.	
1915	44,653		1,186.6		52,986		11.7		6,203	
1916	43,900		1,152.5		50,595		12.0		6,073	
1917	29,900		962.9		29,388		33.3		9,795	
1918	25,900		829.4		21,481		19.3		4,150	
1919	21,000		1,189.0		24,970		77.6		19,376	
1920	28,000		1,224.3		34,280		35.7		12,236	
1921	27,000		1,086.7		29,340		24.1		7,080	
Leading States.	1922	1923 [1]	1922	1923	1922	1923 [1]	1922	1923	1922	1923 [1]
Total	23,400	15,800	1,185.6	1,124.7	27,744	17,770	8.6	18.7	2,383	3,329
Washington	2,400	1,800	1,410	2,151	3,384	3,872	10.0	18.0	338	697
Oregon	12,000	9,000	800	722	9,600	6,498	9.0	20.0	864	1,300
California	9,000	5,000	1,640	1,480	14,760	7,400	8.0	18.0	1,181	1,332

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 346.—*Hops: Area and yield per acre in undermentioned countries, 1909–1923.*

Country.	Area.					Yield per acre.				
	Average 1909–1913.	1920	1921	1922	1923, preliminary.	Average 1909–1913.	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Canada [1]	[2] 718	509	507	507	------	[2] 1,429	1,695	1,705	1,343	------
United States [3]	[4] 45,000	28,000	27,000	23,400	15,800	[4] 1,192	1,224	1,087	1,186	1,125
EUROPE.										
United Kingdom:										
England	33,797	21,002	25,133	26,452	24,893	977	1,499	998	1,274	1,030
Belgium	5,312	3,504	3,731	4,258	3,408	1,319	1,438	998	785	892
France	[5] 7,037	10,403	10,774	10,430	------	[5] 987	998	617	857	------
Germany	[5] 67,756	28,651	27,870	29,687	29,000	[5] 444	468	255	462	247
Austria	[5] 51,599	200	240	242	------	[5] 533	435	396	355	------
Czechoslovakia	------	20,660	18,952	19,408	19,180	------	562	338	641	334
Hungary	[6] 3,901	630	502	------	------	[6] 778	554	558	------	------
Yugoslavia	------	2,849	2,980	3,788	------	------	496	381	832	------
Poland	[6] 2,589	------	------	4,823	4,900	[6] 550	------	------	738	------
OCEANIA.										
Australia	1,251	1,497	1,562	------	------	1,285	1,336	1,537	------	------
New Zealand	[4] 653	484	540	675	------	------	1,340	1,258	------	------
Total	219,613	------	------	------	------	------	------	------	------	------
Total comparable with 1923	------	------	------	108,028	97,181	------	------	------	------	------

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Figures are for 1909–1923 in Northern Hemisphere and for seasons 1909–10 through 1923–24 in Southern Hemisphere.

[1] British Columbia only.
[2] Two-year average.
[3] Principal producing States.
[4] One year.
[5] Old boundaries.
[6] Congress Poland

TABLE 347.—*Hops: Production in undermentioned countries, 1909–1923.*

Country.	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Canada [1]	[2] 1,026	270		337	863	864	681	
United States [3]	53,654	29,388	21,481	24,970	34,280	29,340	27,744	17,770
EUROPE.								
United Kingdom:								
England	33,021	24,752	14,560	21,168	31,472	25,088	33,712	25,648
Belgium	7,008			3,180	5,038	3,722	3,344	3,040
France	[4] 6,948	4,354	924	1,855	10,387	6,646	8,940	[5] 3,400
Germany	[4] 30,105	20,621	1,833	8,533	13,397	7,097	13,704	7,150
Austria	[4] 27,478	265	132	110	87	95	86	[6] 100
Czechoslovakia				9,594	11,609	6,401	12,439	6,415
Hungary	[6] 3,036				340	280	90	[6] 22
Yugoslavia					1,414	1,135	3,150	[6] 2,200
Poland	[6] 1,425						3,558	[6] 2,000
Russia	[7] 8,803							
OCEANIA.								
Australia	1,607	2,103	1,858	1,462	2,001	2,401	[5] 1,700	[5] 1,700
New Zealand		692	650	701	649	679	[5] 700	[5] 600
Total	174,111							
Total comparable with 1923							109,167	70,045

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Figures are for 1909–1923 in Northern Hemisphere and for seasons 1909–10 through 1923–24 in Southern Hemisphere.

[1] British Columbia only.
[2] Two-year average.
[3] Principal producing States.
[4] Old boundaries.
[5] Commercial estimates.
[6] Congress Poland.
[7] Russia exclusive of Congress Poland.

TABLE 348.—*Hops: Consumption and movement, 1910–1923.*

Year ending June 30—	Consumed by brewers.	Exports.		Total of brewers' consumption and exports.	Imports.	Net domestic movement.
		Domestic.	Foreign.			
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1909–10	43,293,764	10,589,254	14,590	53,897,608	3,200,560	50,697,048
1910–11	45,068,811	13,104,774	17,974	58,191,559	8,557,531	49,634,028
1911–12	42,436,665	12,199,663	35,869	54,663,197	2,991,125	51,672,072
1912–13	44,237,735	17,591,195	35,859	61,864,789	8,494,144	53,370,645
1913–14	43,987,623	24,262,896	30,224	68,280,743	5,382,025	62,898,718
1914–15	38,839,294	16,210,443	16,947	55,066,684	11,651,332	43,415,352
1915–16	37,451,610	22,409,818	134,571	59,995,999	675,704	59,320,295
1916–17	41,949,228	4,574,876	26,215	46,850,316	236,849	46,613,467
1917–18	33,481,415	3,494,579	37,823	37,013,817	121,288	36,892,529
1918–19	13,924,650	7,466,952	4,719	21,396,321	6	21,396,315
1919–20	[1] 6,440,894	30,779,508	104,198	37,324,600	2,696,264	34,628,336
1920–21	[1] 5,968,982	22,206,028	827,803	29,022,813	4,807,998	24,214,815
1921–22	[1] 4,452,676	19,521,047	437,633	24,461,956	893,324	23,568,632
1922–23	[1] 4,555,759	13,497,183	198,006	18,250,948	1,294,644	17,956,304

Division of Crop and Livestock Estimates. Compiled from records of the Treasury Department. Exports and imports are as reported by the Department of Commerce.

[1] Hops used to make "cereal beverages."

TABLE 349.—*Hops: International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Austria-Hungary	938	18,333						
Czechoslovakia			[1] 2,539	[1] 14,961	2,403	6,625	54	10,586
Germany	7,688	17,564	87	21,624	[2] 1,714	[2] 5,712	4,806	7,444
Hungary				[1] 532	[1] 146	[1] 39	[1] 225	[1] 179
New Zealand	61	352	19	181	19	235		221
Russia	1,258	2,348						
United States	6,235	15,416	5,949	25,624	1,629	18,460	1,201	14,882
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	618		723					
Australia	1,106	22	1,254	7	754	1		
Austria			1,117	69	1,247	650	[1] 1,281	[1] 141
Belgium	6,915	4,814	16,457	12,222	8,507	4,228	4,626	2,072
British India	246		122		272		282	
Canada	1,396	176	1,657	63	2,140	321	1,965	826
Denmark	1,027	[3] 1	526	28	388	1	653	[1] 1
France	5,436	335	5,877	4,170	2,862	5,806	3,032	3,329
Italy	529	10	1,284	5	846	11	778	87
Japan	253		1,506		658		[1] 754	
Netherlands	2,938	1,405	1,562	3,013	1,072	1,311	1,323	549
Norway	289		471		422		533	
Sweden	987	1	998	766	685	152	867	[1] 85
Switzerland	1,257	[4] 2	153		492		749	
Union of South Africa	487		457		390		404	
United Kingdom	21,028	2,162	51,049	411	24,256	246	14,284	317
Other countries	2,277		2,303	8	2,846	55	685	399
Total	62,969	62,941	96,110	83,684	53,748	43,853	38,502	41,118

Division of Statistical and Historical Research. Official sources except where otherwise noted. Lupulin and hopfenmehl (hop meal) are not included.

[1] International Institute of Agriculture.
[2] Eight months, May–December.
[3] Three-year average.
[4] One year.

TABLE 350.—*Hops: Wholesale price per pound, 1913–1923.*

Calendar year.	New York, State, prime to choice.			San Francisco.		
	Low.	High.	Average.[1]	Low.	High.	Average.[1]
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1913	17	48		19	30	
1914	23	50		10	30	
1915	13	30		10	15	
1916	15	55		7	14	
1917	34	90		6	40	
1918	23	54	37.9	19	22.5	19.5
1919	37	85	59.9	34	84	59.2
1920	41	105	80.2	33	85	61.6
1921	26	50	37.0	12	35	24.4
1922	19	40	25.3	9	30	17.6
1923	19	58	32.5	10	35	17.2
1923.						
January	22	24	23.0	10	15	12.5
February	22	24	23.0	10	15	12.5
March	20	24	22.3	10	15	12.3
April	19	21	19.6	10	12	11.0
May	19	20	19.5	10	12	11.0
June	19	27	19.7	10	12	11.0
July	22	29	26.5	10	12	1.0
August	28	30	29.0	10	30	15.3
September	28	57	41.3	25	30	27.5
October	55	58	56.3	25	35	29.1
November	53	57	55.3	20	35	26.4
December	53	55	54.0	20	30	26.4

Division of Statistical and Historical Research. Compiled from New York Journal of Commerce and San Francisco Daily Commercial News.

[1] Monthly averages are computed from daily ranges. Yearly averages are simple averages of monthly averages.

PEANUTS.

TABLE 351.—*Peanuts: Acreage, production, and farm value, United States, 1916–1923; by States, 1922 and 1923.*

Calendar year, and State.	Thousands of acres.		Average yield in pounds per acre.		Production, thousands of pounds.		Average farm price, cents per pound Nov. 15.		Farm value, thousands of dollars.	
1916	1,043		881.1		919,028		4.5		41,243	
1917	1,842		777.7		1,432,581		6.9		98,512	
1918	1,865		664.9		1,240,102		6.5		80,271	
1919	1,132		691.9		783,273		9.3		73,094	
1920	1,181		712.5		841,474		5.3		44,256	
1921	1,214		683.1		829,307		4.0		33,097	
Leading States.	1922	1923[1]	1922	1923	1922	1923[1]	1922	1923	1922	1923[1]
Total	1,005	884	630.0	720.0	633,114	636,462	4.7	6.8	29,613	43,078
Virginia	130	124	600	990	78,000	122,760	5.5	6.5	4,290	7,979
North Carolina	145	148	840	1,100	121,800	162,800	4.0	7.4	4,872	12,047
South Carolina	36	38	760	850	27,360	32,300	5.0	7.2	1,368	2,326
Georgia	160	152	602	512	96,320	77,824	4.7	6.9	4,527	5,370
Florida	72	80	625	600	45,000	48,000	5.0	7.0	2,250	3,360
Tennessee	14	14	750	935	10,500	13,090	4.5	7.0	472	916
Alabama	205	142	550	469	112,750	66,598	4.8	5.8	5,412	3,863
Mississippi	18	15	675	600	12,150	9,000	6.0	6.0	729	540
Louisiana	18	17	600	450	10,800	7,650	6.9	7.5	745	574
Texas	172	122	560	620	96,320	75,640	4.0	6.4	3,853	4,841
Oklahoma	17	15	620	650	10,540	9,750	3.8	5.0	401	488
Arkansas	18	17	643	650	11,574	11,050	6.0	7.0	694	774

Division of Crop and Livestock Estimates.

[1]Preliminary.

TABLE 352.—*Peanuts: Farm price per pound, 15th of month, United States, 1910–1923.*

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted av., crop year.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910–11	4.7	4.5	4.4	5.0	4.8	4.9	4.8	5.2	5.0	5.3	5.1	4.6	4.6
1911–12	4.4	4.4	4.3	4.7	5.0	4.9	4.9	5.2	4.9	5.0	4.8	4.7	4.4
1912–13	4.7	4.6	4.6	4.5	4.7	4.8	4.7	5.0	5.1	4.9	4.9	4.8	4.6
1913–14	4.4	4.8	4.7	4.7	4.7	4.9	5.1	5.1	5.2	4.9	5.0	4.5	4.6
Av. 1910–1913	4.6	4.6	4.5	4.7	4.8	4.9	4.9	5.1	5.0	5.0	5.0	4.6	4.6
1914–15	4.4	4.3	4.5	4.4	4.2	4.5	4.8	4.8	4.7	4.5	4.4	4.3	4.4
1915–16	4.2	4.2	4.3	4.4	4.4	4.6	4.6	4.7	4.6	4.6	4.4	4.4	4.3
1916–17	4.4	4.7	4.9	5.3	5.5	6.2	7.2	7.7	7.6	7.2	6.6	6.1	4.8
1917–18	7.1	7.1	7.0	7.2	7.4	8.3	8.2	7.9	7.8	7.9	8.3	6.9	7.1
1918–19	6.6	6.1	6.0	6.9	7.0	6.9	7.2	7.7	8.2	8.1	8.3	8.1	6.5
1919–20	9.1	9.1	9.9	10.5	11.2	10.9	11.2	11.2	11.0	8.5	8.0	5.8	9.2
1920–21	5.3	4.7	4.4	4.1	4.0	3.5	3.4	3.8	3.8	3.9	4.0	4.0	4.7
Av. 1914–1920	5.9	5.7	5.9	6.1	6.2	6.4	6.7	6.8	6.8	6.4	6.3	5.7	5.9
1921–22	3.7	3.5	3.6	4.0	4.3	3.9	3.9	4.2	4.4	4.4	4.7	3.6	3.7
1922–23	5.2	5.0	5.9	6.5	6.7	7.1	7.1	7.3	6.9	6.7	6.7	7.0	5.5
1923–24	6.8	6.2											

Division of Crop and Livestock Estimates.

TABLE 353.—*Peanuts: International trade, calendar years, 1911–1922.*

Country.	Average, 1911–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Anglo-Egyptian Sudan	----------	1,961	2	6,274	----------	9,266	----------	5,928
Brazil	----------	274	----------	1,975	----------	422	----------	----------
British India	----------	503,448	----------	271,358	----------	383,555	----------	690,518
China	32,882	138,472	26,159	246,343	22,845	284,461	20,090	238,032
Dutch East Indies	612	60,282	727	52,330	797	31,653	----------	[1] 28,505
French possessions in India	----------	306,701	----------	[2] 46,775	----------	[2] 66,451	----------	----------
Gambia	----------	131,912	----------	[2] 190,826	----------	[2] 132,552	----------	----------
Guinea (French)	1	4,863	----------	[2] 3,799	----------	[2] 3,331	----------	----------
Mozambique	[3] 1,098	[3] 15,907	80	18,359	----------	----------	----------	----------
Nigeria	----------	17,163	----------	[2] 101,716	----------	[2] 114,193	----------	----------
Senegal	[3] 168	425,937	----------	[2] 678,979	----------	[2] 596,108	----------	----------
Spain	----------	9,205	----------	5,058	----------	8,137	----------	3,164
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	7,022	218	2,729	87	4,407	82	----------	196
Argentina	8,667	----------	21	3,711	----------	----------	----------	----------
Canada	7,302	----------	20,134	----------	21,570	----------	20,092	----------
Denmark	5,236	----------	11,140	----------	10,798	----------	10,803	----------
Egypt	4,664	1,637	7,819	3,445	10,114	4,994	----------	3,329
France	1,239,559	47,107	1,062,099	5,707	1,027,395	11,725	1,247,832	12,383
Germany	174,970	[4] 98	21,939	----------	[5] 127,445	----------	152,762	----------
Hongkong	----------	----------	----------	----------	----------	----------	44,443	34,414
Italy [6]	1,194	804	31,045	597	52,278	191	84,241	768
Japan	----------	10,675	43,832	11,928	33,806	1,435	----------	----------
Netherlands	122,862	32,863	52,946	1,165	64,478	3,928	98,301	2,679
Philippine Islands	2,264	----------	3,241	----------	3,111	----------	3,102	----------
Singapore	[3] 20,092	[3] 12,191	15,289	5,550	----------	----------	----------	----------
Tunis	[3] 1,459	----------	1,138	----------	2,022	----------	2,795	----------
Union of South Africa	3,164	7	1,896	58	783	197	1,499	25
United Kingdom	----------	----------	322,074	----------	216,946	----------	139,131	----------
United States	20,988	6,804	174,919	9,366	57,984	14,493	15,192	12,621
Other countries	80,604	99,214	9,269	13,579	15,920	16,955	747	7
Total	1,734,908	1,827,743	1,808,449	1,678,985	1,672,609	1,684,129	1,841,030	932,569

Division of Statistical and Historical Research. Official sources except where otherwise noted. Includes shelled and unshelled, assuming the peanuts to be unshelled unless otherwise stated. When shelled nuts were reported they have been reduced to terms of unshelled at the ratio of 3 pounds unshelled to 2 pounds shelled.

[1] Java and Madura only.
[2] International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
[3] Two-year average.
[4] One year only.
[5] Eight months, May–December.
[6] Reports include some sesamum.

TABLE 354.—*Peanuts used in the production of oil, United States, 1919–1924.*

Year ending June 30.	July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June.	Year.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1918–19	----------	----------	[1] 70,936	[1] 116,240	----------
1919–20	12,694	4,350	5,861	9,261	32,166
1920–21	15,715	27,351	26,202	42,990	112,258
1921–22	37,538	38,281	43,038	26,159	145,016
1922–23	4,690	13,126	7,054	8,409	33,279
1923–24	938	6,137	----------	----------	----------

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census. Quantities reported in terms of "hulled" have been converted to "in the hull" basis by dividing by .67.

[1] Includes peanuts "in the hull" which were not reported separately.

PEANUT OIL.

TABLE 355.—*Peanut oil: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.[1]		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
China	(2)	[3] 35,593	(2)	110,170	(2)	61,555	(2)	51,136
Dutch East Indies	[4] 2,090	[4] 45	[5] 1,044	[5] 1,947	[5] 1,776	[5] 2,457		
France	142	50,967	18,277	29,321	10,405	82,905	2,138	49,339
Netherlands	2,743	18,569	2,270	8,703	14,280	18,115	17,716	20,781
Spain		29		173				
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	(2)	(2)	7,283	9	30,910	694		
Belgium	2,233	2,065	4,036	1,703	4,434	4,529	4,618	3,671
Denmark	2,941	[3] 156	948	391	1,342	662	3,047	
Germany	1,602		(2)		[1] 11,453		5,959	5,344
Hongkong							27,558	21,746
Italy	8,867	[3] 4	12,253	53	28,159	61	6,643	25
Morocco	(2)		1,369		2,545			
Norway	(2)	(2)	3,678	537	6,078	604	7,846	
Philippine Islands	[3] 976	(2)	1,538	(2)	2,712	(2)	3,119	
Sweden	2,459		1,859	323	3,695	72		
United Kingdom	(2)	(2)	22,154	2,410	19,907	7,605	17,463	7,939
United States	[5] 7,295	(2)	95,124	1,425	3,021	1,708	2,470	963
Other countries	4,376	384	1,378	1,408	746	391	37	
Total	35,724	107,812	173,211	158,573	141,463	181,258	98,614	160,944

Division of Statistical and Historical Research. Official sources except where otherwise noted. Conversions made on the basis of 7.5 pounds to the gallon.

[1] International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
[2] Not separately stated.
[3] Four-year average.
[4] Two-year average.
[5] Three-year average.

TABLE 376.—*Timothy seed: Receipts and shipments, Chicago, 1910–1923*—Con.

SHIPMENTS.

Year beginning Aug. 1—	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Total
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1910–11	1,825	4,198	1,701	676	899	2,078	2,109	2,751	1,004	159	4	3	17,407
1911–12	2,452	5,038	2,035	2,051	688	482	958	1,356	761	360	54	158	16,393
1912–13	1,951	7,504	4,373	4,912	2,224	3,313	3,152	4,426	4,629	2,229	1,521	1,344	41,578
1913–14	1,774	3,735	3,285	1,896	1,893	2,065	2,021	3,977	1,955	888	786	2,592	26,867
1914–15	2,056	4,845	2,511	2,124	3,549	2,565	1,877	2,430	2,623	1,727	955	1,205	28,467
1915–16	1,372	5,344	5,283	3,796	2,485	1,892	2,326	4,203	2,715	1,212	162	305	31,185
1916–17	2,826	7,956	5,363	4,071	3,128	2,921	4,082	7,775	4,321	2,288	779	729	40,239
1917–18	2,605	3,887	2,816	1,511	1,291	1,720	2,049	5,160	1,459	147	509	427	23,581
1918–19	1,218	1,774	2,674	3,903	2,688	1,659	3,178	3,021	4,579	1,817	780	1,253	29,144
1919–20	2,340	6,301	3,142	1,964	2,588	4,007	3,737	3,404	1,852	2,497	735	1,057	33,624
1920–21	2,233	4,072	4,150	1,787	1,594	6,810	4,531	5,410	2,708	1,550	587	1,001	33,433
Av. 1914–1920	2,093	4,883	3,706	2,737	2,475	2,653	3,111	4,572	2,894	1,605	644	867	32,239
1921–22	5,233	8,567	3,750	2,340	2,846	2,551	4,108	5,187	2,129	2,598	336	352	39,997
1922–23	3,896	6,303	4,580	3,943	1,895	2,106	2,451	3,291	2,221	1,394	353	217	32,650
1923–24	2,481	3,926	1,804	1,573	1,001								

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

TABLE 377.—*Forage plant seed: Imports into United States, 1911 to 1923.*[1]

Kind of seed.	For fiscal year ending June 30.												
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Alfalfa	1,272	3,394	6,104	5,203	6,930	3,252	3,170	45	770	18,831	942	7,259	8,784
Canada bluegrass	786	306	791	567	1,043	698	495	1,229	739	552	1,148	1,034	836
Kentucky bluegrass	25	1	5	3	1	1	------	5	------	------	------	------	------
Awnless bromegrass	165	6	75	139	7	(2)	1	------	------	169	9	14	------
Alsike clover	1,524	1,324	766	2,688	778	1,113	4,329	3,528	7,032	5,648	4,121	7,057	5,566
Crimson clover	3,529	3,407	5,377	8,534	11,690	4,504	5,776	1,603	1,484	10,053	5,566	3,443	2,262
Red clover	6,143	19,674	5,363	5,921	8,932	32,509	5,344	708	1,051	19,268	16,333	10,391	448
White clover	473	543	979	640	373	149	158	53	1	189	516	1,623	520
Biennial white sweet clover	13	23	33	42	194	(2)	195	71	941	2,215	3,133	------	------
Biennial yellow sweet clover	------	15	------	243	201	(2)	9	------	1	202	235	------	------
Clover mixtures	------	------	------	------	------	------	26	169	550	205	23	57	20
Grass mixtures	------	------	------	------	------	------	124	6	(4)	3	6	43	(4)
Spring vetch and oats mixtures	------	------	------	------	------	------	------	------	------	------	4	------	------
Meadow fescue	------	------	------	------	------	------	------	------	------	3	------	1	------
Broom-corn millet	2,254	3,376	1,194	1,520	1,305	1,102	786	1,584	------	225	152	1,496	5,360
Foxtail millet	482	276	291	523	338	118	260	9	138	146	434	302	65
Orchard grass	548	137	119	1,939	701	754	1,286	58	177	2,771	------	2,922	768
Rape	1,516	1,266	1,194	2,981	3,966	4,019	2,286	11,316	639	5,766	4,245	4,763	6,384
Redtop	------	------	------	------	------	------	------	------	------	7	(4)	2	11
Perennial rye grass	605	1,626	1,117	1,429	1,342	1,510	1,668	1,584	831	1,958	1,523	1,868	1,834
Italian rye grass	251	321	345	311	485	383	481	606	208	980	577	828	860
Timothy	320	378	40	23	18	119	4	22	155	37	391	95	32
Hairy vetch	965	646	1,948	2,477	466	68	296	231	257	1,220	1,387	1,941	1,599
Spring vetch	2,076	531	1,390	662	221	62	30	118	435	1,048	542	345	1,858

Hay, Feed, and Seed Division.

[1] Imports of all seeds up to and including the fiscal year 1913, also of perennial and Italian rye grass and hairy vetch up to and including 1917, and sweet clover for all years, are based on information furnished by U. S. Customs Service. All other figures represent imports of seed permitted entry under the seed importation act.

[2] Preliminary.

[3] Figures missing.

[4] Less than 500 pounds

TABLE 378.—*Alfalfa seed: Farm price per bushel, 15th of month, United States, 1912–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average
1912-13	$8.32	$8.58	$9.02	$7.87	$8.23	$7.86	$7.06	$8.15	$8.19	$8.36	$8.21	$8.08	$8.21
1913-14	8.20	7.96	7.42	6.96	6.36	6.60	6.55	6.48	6.60	6.77	6.77	6.83	6.96
1914-15	6.92	6.81	7.21	7.29	7.29	7.57	7.61	7.86	7.92	8.45	7.01	8.31	7.52
1915-16	8.51	8.30	7.94	8.37	8.65	8.88	8.84	9.20	10.02	10.39	10.70	10.10	9.16
1916-17	10.30	9.33	9.27	8.61	8.30	8.56	7.97	7.75	8.53	9.03	8.85	8.61	8.76
1917-18	8.71	8.69	9.04	9.04	9.43	9.58	10.14	9.90	10.60	10.53	10.09	10.13	9.66
1918-19	9.67	9.88	10.04	9.91	9.38	9.65	10.07	10.48	10.64	11.18	12.13	11.79	10.40
1919-20	10.88	11.34	12.34	14.90	15.23	16.68	16.60	19.57	21.43	21.80	22.40	20.42	16.97
1920-21	19.41	16.03	14.89	13.35	12.25	10.24	9.95	9.01	9.31	8.71	8.97	8.73	11.74
1921-22	7.89	8.51	8.53	8.33	8.09	7.63	7.39	8.45	7.50	9.00	8.89	8.48	8.22
1922-23	9.00	7.74	8.00	7.94	8.50	9.45	9.58	9.96	10.56	10.44	10.59	10.57	9.36
1923-24	10.25	10.38	9.20	10.75	10.21	10.19	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 379.—*Clover seed: Farm price per bushel, 15th of month, United States, 1910–1923.*

Year beginning July 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Weighted av.
1910-11	$8.27	$8.13	$7.70	$7.94	$8.27	$8.37	$8.56	$8.79	$8.74	$8.80	$8.83	$9.65	$8.30
1911-12	10.19	10.33	10.37	10.62	10.89	12.22	12.89	12.91	12.53	11.69	10.64	9.80	11.25
1912-13	9.39	9.37	9.06	9.00	9.41	10.28	10.42	11.00	10.74	9.77	9.78	9.37	9.71
1913-14	7.31	7.00	7.33	7.70	7.99	8.07	8.17	8.06	7.87	7.96	8.12	8.76	7.75
Av. 1910-1913	8.79	8.71	8.62	8.82	9.14	9.74	10.01	10.19	9.97	9.56	9.34	9.40	9.25
1914-15	9.10	8.24	8.02	8.12	8.51	8.60	8.55	8.36	8.14	7.90	7.96	7.94	8.41
1915-16	8.49	9.70	9.67	10.01	10.27	10.47	10.76	10.58	9.98	9.47	9.15	9.12	9.98
1916-17	8.65	8.54	9.20	9.40	9.60	9.87	10.32	10.41	10.40	10.29	10.50	10.53	9.54
1917-18	10.89	11.92	12.91	13.53	14.48	16.46	17.49	17.86	16.56	15.88	14.71	15.20	14.48
1918-19	16.61	19.01	20.03	20.67	21.55	21.79	22.61	24.81	24.48	23.37	23.25	24.33	21.01
1919-20	25.38	26.47	26.53	27.63	28.06	31.21	31.88	32.23	29.84	26.21	26.52	19.97	28.34
1920-21	17.77	13.18	11.64	10.28	10.82	10.61	10.98	10.80	10.71	10.20	10.00	10.37	11.81
Av. 1914-1920	13.84	13.87	14.00	14.23	14.76	15.57	16.08	16.44	15.73	14.76	14.44	13.92	14.80
1921-22	10.25	10.21	10.09	10.38	10.69	11.88	13.00	13.13	12.84	11.60	11.00	9.88	11.14
1922-23	8.85	9.66	10.18	10.88	11.16	11.52	11.71	11.48	11.20	10.84	10.94	10.46	10.71
1923-24	11.07	12.20	12.18	12.22	------	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 380.—*Timothy seed: Farm price per bushel, 15th of month, United States, 1910–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Weighted av.
1910-11	.....	$3.77	$4.03	$4.08	$4.11	$4.12	$4.51	$4.93	$5.17	$5.24	$5.24	$5.48	$4.28
1911-12	$6.52	6.65	6.91	6.90	6.72	6.99	7.26	7.33	7.27	7.16	6.68	5.96	6.87
1912-13	3.20	2.09	1.95	1.82	1.79	1.79	1.78	1.72	1.74	1.76	1.77	1.94	2.01
1913-14	2.01	2.13	2.02	2.08	2.10	2.07	2.12	2.30	2.28	2.38	2.23	2.32	2.13
Av. 1910-1913	3.91	3.66	3.72	3.72	3.68	3.74	3.92	4.07	4.12	4.14	3.98	3.92	3.82
1914-15	2.43	2.46	2.34	2.34	2.18	2.63	2.66	2.78	2.69	2.75	2.65	2.57	2.49
1915-16	2.56	2.62	2.72	2.91	2.86	3.05	3.19	3.28	3.51	3.33	3.26	3.08	2.89
1916-17	2.36	2.22	2.27	2.25	2.31	2.44	2.46	2.70	2.76	3.09	3.09	3.04	2.42
1917-18	3.23	3.31	3.61	3.25	3.37	3.57	3.78	3.84	3.74	3.84	3.56	3.67	3.50
1918-19	3.87	3.79	4.08	4.26	4.21	4.34	4.51	4.54	4.69	5.05	4.63	4.49	4.19
1919-20	4.58	4.55	4.78	4.67	4.98	5.35	5.62	5.61	5.63	5.61	5.46	5.44	4.98
1920-21	4.44	3.52	3.25	3.09	3.16	3.04	2.75	2.97	2.84	2.90	2.99	2.98	3.29
Av. 1914-1920	3.35	3.21	3.29	3.25	3.30	3.49	3.57	3.69	3.69	3.80	3.66	3.61	3.39
1921-22	2.71	2.31	2.70	2.41	2.57	2.70	2.82	2.95	3.11	3.21	2.81	2.53	2.64
1922-23	2.20	2.28	2.48	2.49	2.69	3.06	2.98	3.00	2.99	2.87	2.92	3.16	2.60
1923-24	2.63	3.01	3.12	3.15	3.19	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 381.—*Field seeds: Average price per 100 pounds paid to growers for crops of 1919–1922.*

ALFALFA SEED.

State or State subdivision.	1919	1920	1921	1922	State or State subdivision.	1919	1920	1921	1922
Southern Arizona	$35.50	$17.00	$14.35	$15.50	Montana	$26.00	$17.00	$17.85	$21.05
California	30.00	15.90	14.00	14.75	Nebraska	26.00	15.80	10.10	13.90
Colorado	27.00	13.00	11.85	11.60	Eastern New Mexico	27.50	14.00	10.80	13.00
Southern Idaho	31.65	11.80	12.00	14.95	Western Oklahoma	22.30	12.85	11.20	13.30
Northeastern Kansas	25.05	13.60	11.10	------	Western Oregon	28.70	18.00	13.00	------
Northwestern Kansas	26.75	14.25	10.65	12.10	South Dakota	31.45	18.75	13.20	17.00
Southeastern Kansas	28.30	16.40	13.60	------	Western Texas	23.50	20.65	14.75	13.10
Southwestern Kansas	26.60	14.70	11.35	12.90	Northern Utah	33.50	16.00	11.75	15.50

ALSIKE CLOVER SEED.

Southern Idaho	$40.15	$22.00	$14.50	$13.60	Western New York	$39.20	$21.10	$14.50	------
Northern Illinois	39.60	22.05	14.65	13.80	Northwestern Ohio	40.80	22.30	13.30	$12.90
Northern Indiana	41.70	21.75	14.80	14.55	Western Oregon	40.45	23.50	13.65	15.20
Iowa	40.35	19.95	15.15	------	Northeastern Wisconsin	40.25	18.95	14.30	11.80
Southern Michigan	44.90	20.90	13.50	13.50	Southeastern Wisconsin	41.20	20.20	14.20	12.85
Minnesota	39.25	19.25	13.65	12.95					

RED CLOVER SEED.

Idaho	$45.60	$13.95	$15.10	$16.75	Missouri	$39.25	$15.85	$16.05	$15.55
Northern Illinois	43.30	18.70	16.30	17.25	Nebraska	41.25	14.65	15.35	16.15
Central Illinois	43.70	18.40	16.55	16.55	Northwestern Ohio	44.40	19.05	17.20	17.55
Northern Indiana	45.50	19.10	17.00	17.20	Western Oregon	47.50	22.35	15.30	20.10
Central Indiana	45.50	18.50	16.55	16.15	Washington	45.00	18.00	15.25	------
Southern Indiana	42.50	16.05	16.45	15.85	Northeastern Wisconsin	43.80	16.30	16.65	17.35
Northeastern Iowa	42.10	17.80	16.45	16.60	Southeastern Wisconsin	45.60	18.40	17.55	17.90
Southeastern Iowa	40.50	18.30	15.40	16.10	Southwestern Wisconsin	43.55	16.75	16.85	17.45
Southwestern Iowa	42.70	17.25	15.90	17.05					
Kansas	40.50	15.65	15.30	16.30					
Southern Michigan	45.00	17.10	16.60	17.35					
Minnesota	43.10	16.75	15.50	17.10					

SWEET CLOVER SEED.

Colorado	$21.60	$9.90	$4.25	$4.55	Nebraska	$25.00	$12.50	$6.50	------
Idaho	24.75	10.00	6.50	------	North Dakota	23.00	9.60	4.40	$7.35
Illinois	24.00	10.30	10.15	7.10	Oklahoma	22.00	9.00	5.00	------
Kansas	23.50	8.15	5.10	7.75	South Dakota	21.00	9.50	5.00	7.00
Minnesota	21.00	8.00	4.50	6.85	Utah	26.00	8.50	3.00	------
Montana	23.25	11.50	5.00	7.00					

TIMOTHY SEED.

Southern Idaho	$11.25	$5.25	$4.10	$4.45	Northeastern Missouri	$10.55	$5.75	$4.30	$4.95
Northern Illinois	9.85	6.50	4.50	4.70	Northwestern Missouri	10.60	5.50	3.95	4.60
Central Illinois	10.50	6.30	4.85	4.95	Southwestern Missouri	10.35	4.55	3.70	------
Southern Illinois	10.15	6.75	4.95	5.15	Nebraska	9.60	5.50	5.50	------
Indiana	10.75	6.25	4.70	5.15	North Dakota	9.35	5.80	5.20	4.55
Northeastern Iowa	10.10	5.40	4.20	4.70	Northeastern Ohio	11.05	6.65	4.85	4.95
Northwestern Iowa	9.75	5.90	4.15	4.50	Northwestern Ohio	10.70	5.85	4.70	5.00
Southeastern Iowa	10.60	6.05	4.50	4.60	Northeastern South Dakota	9.55	5.05	4.45	4.60
Southwestern Iowa	10.65	5.50	4.10	4.55	Southeastern South Dakota	9.95	5.65	4.05	4.60
Kansas	10.00	5.25	5.60	------	Wisconsin	10.00	5.90	4.80	5.05
Northwestern Minnesota	9.56	5.10	4.35	4.55					
East central Minnesota	9.65	5.75	4.40	5.05					
Southern Minnesota	9.70	5.50	4.45	4.85					
West central Minnesota	9.90	5.25	4.75	4.75					

Division of Statistical and Historical Research. Weighted average price based on reports received annually from seed shippers.

TABLE 382.—*Alfalfa seed: Average spot price per 100 pounds, Kansas City, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	(1)	(1)	$13.34	$12.88	$12.88	$12.88	$12.88	$12.88	$12.88	(1)	(1)	(1)	
1911–12	(1)	(1)	11.50	10.48	10.00	10.17	11.03	10.90	10.91	$10.45	$10.25	$10.41	
1912–13	$10.50	$10.27	9.84	9.64	10.00	10.00	9.90	9.81	9.88	10.09	10.25	11.71	$10.16
1913–14	10.00	9.57	8.25	8.12	7.70	7.75	8.00	8.00	8.00	8.42	9.35	9.50	8.56
1914–15	9.50	10.20	11.88	10.34	10.00	10.37	11.87	13.15	13.11	12.53	12.25	12.25	11.45
1915–16	(1)	14.17	14.98	15.69	15.57	16.08	17.40	16.23	17.25	17.25	17.25	17.25	
1916–17	17.81	17.58	12.63	11.23	10.50	10.66	10.62	11.00	11.00	11.18	11.80	12.00	12.33
1917–18	12.00	12.52	13.25	13.51	14.00	14.00	13.50	13.50	13.50	14.38	15.00	12.42	13.47
1918–19	12.90	13.91	13.02	13.12	13.45	13.31	13.38	13.75	13.75	13.04	14.27	14.21	13.53
1919–20	14.50	17.70	20.00	23.50	27.72	30.00	30.00	33.77	20.73	25.00	25.00	25.00	24.41
1920–21	25.00	25.00	14.79	14.67	12.50	14.00	15.00	14.62	13.25	13.75	13.25	12.75	15.72
Av., 1914–1920	15.28	15.87	14.36	14.58	14.82	15.49	16.00	16.57	14.66	15.30	15.55	15.13	15.31
1921–22	12.75	12.75	12.12	11.50	11.50	11.00	11.12	12.25	13.88	14.25	13.00	13.00	12.43
1922–23	(1)	13.12	14.50	14.25	16.00	17.50	17.85	17.35	16.00	16.10	15.90	15.00	
1923–24	(1)	(1)	14.75	14.65	17.10								

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and the Seed World.

[1] No quotations.

TABLE 383.—*Red clover seed, prime contract grade: Average spot price per 100 pounds, Chicago, 1910–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$16.13	$15.13	$14.45	$14.86	$15.04	$14.80	$15.25	$15.13	$15.81	$16.10	$15.75	$19.25	$15.64
1911–12	20.10	20.63	20.63	20.75	21.81	23.13	22.50	21.63	20.55	20.13	20.00	16.00	20.66
1912–13	17.56	18.38	18.05	18.88	19.90	19.88	19.25	21.38	18.40	16.00	15.50	14.70	18.16
1913–14	11.00	13.35	13.96	14.88	14.75	14.46	14.04	13.00	13.00	13.50	14.15	17.81	13.99
1914–15	17.19	15.08	15.00	15.59	15.84	15.29	14.30	13.80	13.50	13.50	13.50	15.19	14.82
1915–16	18.40	21.05	20.06	20.72	19.59	21.19	18.00	16.69	16.00	14.60	14.00	15.63	17.99
1916–17	14.85	16.00	17.50	17.91	18.19	19.38	18.81	17.90	18.33	18.39	19.08	20.33	18.06
1917–18	22.36	25.16	26.81	27.45	31.40	34.35	33.72	32.15	30.51	30.45			
1918–19	35.00	35.50	36.00	37.50	42.60	42.60	51.60	50.00	46.60	45.80	49.10	50.00	43.52
1919–20	50.00	53.10	51.20	52.00	54.23	55.73	54.22	44.96	35.00	35.00	35.00	29.85	45.86
1920–21	26.58	22.28	21.67	20.00	21.52	18.55	18.19	17.85	19.00	19.00	19.00	19.00	20.22
Av., 1914–1920	26.34	26.88	26.89	27.31	29.05	29.58	29.83	27.62	25.56	25.25			
1921–22	18.01	18.32	18.50	18.50	20.84	22.49	24.52	22.00	21.77	19.38	18.00	16.22	19.88
1922–23	16.42	19.40	20.22	20.12	20.45	20.50	19.65	18.00	16.90	17.46	17.50	17.52	18.68
1923–24	20.08	22.15	21.00	20.62									

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

TABLE 383 A.—*Alsike clover seed: Average spot price per bushel, Toledo, 1914–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1914–15						$8.96	$8.59	$8.17	$8.05	[1]$7.90	$8.52	$9.13	
1915–16	$9.59	$10.27	$10.35	$10.33	$10.26	10.07	9.40	9.15	9.10	9.48	9.53	9.88	$9.78
1916–17	9.83	10.24	10.72	11.10	11.30	11.62	11.51	11.56	11.50	11.40	11.62	11.74	11.18
1917–18	12.57	13.34	14.35	14.46	15.31		15.59	15.31	15.22	12.37			
1918–19		18.17		19.66	18.70	16.92	20.09	25.41			24.23	25.00	
1919–20	25.30	28.72	29.97	31.47	34.57	35.17	35.71	[1]30.89	24.37	25.52	23.95	19.24	28.74
1920–21	16.84	17.35	17.70	16.96	16.00	15.34	14.98	13.93	13.50	12.43	10.82	10.71	14.71
1921–22	10.62	10.72	10.64	11.05	11.64	12.37	11.92	11.46	11.27	11.71	10.82	9.81	11.17
1922–23	10.11	10.50	10.74	10.91	10.76	10.54	10.50	10.50	10.42	10.25	10.16	10.48	10.49
1923–24	10.52	10.18	9.67	9.43									

Division of Statistical and Historical Research. Compiled from the Seed World.

[1] Price based on very few sales.

TABLE 384.—*Timothy seed, prime contract grade. Average spot price per 100 pounds, Chicago, 1910–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1910–11	$6.36	$9.45	$9.32	$9.64	$9.97	$10.41	$11.40	$12.03	$12.00	$12.00	$11.55	$13.50	$10.64
1911–12	14.31	15.20	15.81	16.00	16.45	16.25	16.25	15.60	14.50	13.70	11.63	10.25	14.66
1912–13	6.13	4.81	4.44	4.05	4.13	4.13	3.88	3.76	3.88	4.16	4.69	5.28	4.44
1913–14	5.59	5.58	5.51	5.41	5.55	5.53	5.45	5.19	5.30	5.47	5.63	5.87	5.51
1914–15	6.31	6.34	5.64	5.48	6.61	7.89	7.45	7.35	8.84	6.88	7.25	7.40	6.95
1915–16	8.19	9.19	8.35	8.46	8.73	8.70	8.75	8.55	8.50	8.94	9.20	8.75	8.69
1916–17	7.00	4.99	5.43	5.50	5.74	5.55	5.55	5.78	6.81	8.20	8.14	8.01	6.39
1917–18	8.25	8.44	8.56	7.82	7.63	8.25	8.94	8.55	8.25	8.41	7.81	8.88	8.32
1918–19	8.90	10.00	10.00	10.30	11.00	11.00	10.00	10.50	11.00	12.00	12.00	12.00	10.72
1919–20	11.75	11.50	11.25	11.50	12.25	13.62	14.30	13.07	11.76	12.00	12.00	11.85	12.24
1920–21	8.89	7.50	6.71	6.69	6.13	5.78	5.05	4.65	5.04	5.30	5.27	5.07	6.01
Av., 1914–1920	8.47	8.28	7.99	7.96	8.30	8.68	8.58	8.35	8.60	8.82	8.81	8.85	8.47
1921–22	4.50	4.30	4.85	5.31	5.53	5.94	6.00	5.69	5.22	5.19	4.67	4.50	5.14
1922–23	4.59	4.96	5.89	6.26	6.25	6.25	6.19	5.81	5.50	5.70	6.13	6.04	5.80
1923–24	5.91	7.19	7.45	7.24	7.25								

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

TABLE 385.—*Alfalfa seed: Price per bushel paid by farmers, 15th of month, United States, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912						$10.25	$10.07	$10.07	$10.52	$9.84	$9.73	$9.49
1913	$8.25	$9.60	$9.78	$9.99	$9.75	9.73	9.41	10.06	8.96	8.73	7.65	7.25
1914	8.30	7.98	8.01	8.17	8.38	8.31	8.29	7.79	8.85	8.97	8.45	8.81
1915	8.79	9.29	9.58	9.50	9.62	9.61	9.61	9.14	9.60	10.00	9.71	9.75
1916	10.27	11.04	12.21	12.54	12.10	12.10	11.67	11.51	11.30	10.67	10.00	10.31
1917	9.72	9.98	10.34	10.32	10.52	10.79	10.87	10.52	10.72	11.00	10.94	11.16
1918	11.84	12.00	12.24	12.34	12.35	12.04	11.70	13.06	12.43	11.82	11.68	12.00
1919	12.48	12.70	13.12	13.65	14.32	14.24	14.51	14.11	15.47	16.57	17.51	20.27
1920	21.25	22.66	24.64	25.22	25.08	24.22	23.70	21.05	21.19	18.32	16.87	12.99
1921	10.91	12.74	12.47	11.62	11.43	11.84	10.70	11.00	11.14	10.51	10.14	10.38
1922	10.33	10.76	11.37	11.72	11.45	11.24	11.38	10.38	10.67	10.94	11.19	11.69
1923	11.99	12.42	12.50	12.85	13.19	12.64	12.17	12.05	12.15	12.86	12.31	12.44

Division of Crop and Livestock Estimates.

TABLE 386.—*Cloverseed: Price per bushel paid by farmers, 15th of month, United States, 1912–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912						$13.49	$12.82	$11.78	$11.61	$11.28	$11.23	$11.10
1913	$11.39	$11.62	$12.30	$12.90	$12.90	12.47	12.12	11.94	10.22	9.32	9.13	9.43
1914	9.82	9.77	9.45	9.84	9.77	9.86	9.79	10.39	10.76	10.32	10.06	10.04
1915	10.34	10.32	10.33	10.06	9.99	9.89	10.05	9.79	10.18	11.14	10.25	11.56
1916	11.98	12.22	12.58	12.59	12.14	11.71	11.20	11.27	10.90	10.61	10.87	11.10
1917	11.29	11.67	12.07	12.28	12.30	12.23	12.36	12.38	12.64	13.26	14.26	14.99
1918	16.45	18.90	20.13	20.35	19.71	19.15	18.71	17.84	19.42	20.84	21.25	23.10
1919	24.25	25.04	25.72	28.24	28.07	27.87	27.22	27.82	28.73	28.82	29.63	31.04
1920	32.09	35.00	35.64	35.73	34.28	32.05	31.38	27.64	23.31	18.94	16.13	14.66
1921	14.02	13.62	13.52	13.56	13.48	13.38	13.17	13.55	13.00	12.84	12.89	12.82
1922	13.44	14.10	15.39	15.40	15.12	14.48	14.04	13.20	12.11	12.64	12.85	13.32
1923	13.76	14.06	14.12	14.02	13.94	13.66	13.55	13.41	13.84	14.38	13.40	14.30

Division of Crop and Livestock Estimates

TABLE 387.—*Timothy seed: Price per bushel paid by farmers, 15th of month, United States, 1912–1923.*

Calendar year.	Jan	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912						$7.37	$6.59	$3.89	$3.06	$2.84	$2.67	$2.47
1913	$2.51	$2.47	$2.33	$2.43	$2.40	2.44	2.57	2.76	2.84	2.85	2.87	2.84
1914	2.90	2.94	2.97	2.95	2.97	2.98	2.99	3.17	3.25	3.19	3.11	3.05
1915	3.42	3.56	3.60	3.57	3.46	3.48	3.49	3.48	3.59	3.74	3.69	3.73
1916	3.80	3.96	3.98	4.03	4.04	4.01	3.99	3.50	3.08	3.01	3.05	3.11
1917	3.17	3.22	3.24	3.27	3.60	3.81	3.93	3.98	4.12	4.14	4.12	4.20
1918	4.49	4.55	4.67	4.58	4.55	4.56	4.55	4.71	4.98	5.10	5.20	5.23
1919	5.43	5.45	5.50	5.56	5.73	5.68	5.79	5.96	5.92	6.05	6.06	6.24
1920	6.43	6.87	6.94	7.03	6.91	6.88	6.83	6.01	5.41	4.84	4.70	4.54
1921	4.40	4.27	4.05	4.08	4.02	4.10	3.91	3.65	3.41	3.48	3.52	3.63
1922	3.83	4.04	4.00	4.03	4.04	3.88	3.79	3.56	3.34	3.48	3.69	3.74
1923	3.93	3.94	3.97	3.95	3.99	4.03	4.03	3.61	3.93	4.13	4.24	4.14

Division of Crop and Livestock Estimates.

TOBACCO.

TABLE 388.—*Tobacco: Acreage, production, value, exports, etc., United States, 1849–1923.*

Calendar year.	Acreage.	Average yield per acre.	Production.	Average farm price per pound Dec. 1.	Farm value Dec. 1.	Value per acre Dec. 1.[1]	Domestic exports of unmanufactured, fiscal year beginning July 1.	Imports of unmanufactured, fiscal year beginning July 1.
	Acres.	*Pounds.*	*Pounds.*	*Cents.*	*Dollars.*	*Dollars.*	*Pounds.*	*Pounds.*
1849			*199,753,000*					
1859			*434,209,000*					
1869			*262,735,000*					
1879	*639,000*	793.1	506,663,000	6.0	30,200,000	47.26		
1889	*695,000*	658.5	457,881,000	6.9	31,696,000	45.61		
1899	*1,108,000*	728.5	802,397,000	7.1	57,273,000	51.97		
1900	1,046,000	778.0	814,345,000	6.6	53,661,000	51.30	315,787,782	26,851,253
1901	1,039,000	788.0	818,953,000	7.1	58,283,000	56.10	301,007,365	29,428,837
1902	1,031,000	797.3	821,824,000	7.0	57,564,000	55.83	308,184,084	34,016,956
1903	1,038,000	786.3	815,972,000	6.8	55,515,000	53.48	311,971,831	31,162,636
1904	806,000	819.0	660,461,000	8.1	53,383,000	66.23	334,302,091	33,288,378
1905	776,000	815.6	633,034,000	8.5	53,519,000	68.97	312,227,202	41,125,970
1906	796,000	857.2	682,429,000	10.0	68,233,000	85.72	340,742,864	40,898,807
1907	821,000	850.5	698,126,000	10.2	71,411,000	86.98	330,812,658	35,005,131
1908	875,000	820.2	718,061,000	10.3	74,130,000	84.72	287,900,946	43,123,196
1909	*1,295,000*	814.8	1,055,133,000	10.1	106,374,000	82.14	357,196,074	46,853,389
1910	1,366,000	807.7	1,103,415,000	9.3	102,142,000	74.77	355,327,072	48,203,288
1911	1,013,000	893.7	905,109,000	9.4	85,210,000	84.12	379,845,320	54,740,380
1912	1,226,000	785.5	962,855,000	10.8	104,063,000	84.88	418,796,906	67,977,118
1913	1,216,000	784.3	953,734,000	12.8	122,481,000	100.72	449,749,982	61,174,751
Av. 1909–1913	1,223,000	814.4	996,049,000	10.4	104,054,000	85.08	392,183,071	55,789,785
1914	1,224,000	845.7	1,034,679,000	9.8	101,411,000	82.85	348,346,091	45,764,728
1915	1,370,000	775.4	1,062,237,000	9.1	96,281,000	70.23	443,293,156	48,013,335
1916	1,413,000	816.0	1,153,278,000	14.7	169,672,000	120.08	411,598,860	46,136,347
1917	1,518,000	823.1	1,249,276,000	24.0	300,449,000	197.92	289,170,686	79,367,563
1918	1,647,000	873.7	1,439,071,000	28.0	402,264,000	244.24	629,287,761	83,951,103
1919	1,951,000	751.1	1,465,481,000	39.0	570,868,000	292.60	648,037,655	94,005,182
1920	1,960,000	807.3	1,582,225,000	21.2	335,675,000	171.26	506,526,449	58,923,217
Av. 1914–1920	1,583,000	811.0	1,283,750,000	22.0	282,374,000	178.38	468,037,237	65,165,925
1921	1,427,000	749.6	1,069,693,000	19.9	212,728,000	149.07	451,888,436	65,225,437
1922	1,695,000	735.6	1,246,837,000	23.2	289,248,000	170.65	445,186,472	75,783,440
1923[2]	1,820,000	810.3	1,474,786,000	20.3	298,936,000	164.25		

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.
[2] Preliminary.

TABLE 389.—*Tobacco: Acreage, production, and total farm value, by States, 1922 and 1923.*

State.	Thousands of acres.		Production, thousands of pounds.		Total value, thousands of dollars, basis Dec. 1 price.	
	1922	1923 [1]	1922	1923 [1]	1922	1923 [1]
Massachusetts	9	10	9,612	14,100	3,633	6,176
Connecticut	28	29	29,260	40,252	11,792	18,717
New York	2	2	2,220	2,250	821	450
Pennsylvania	43	45	56,760	58,950	9,082	10,700
Maryland	26	24	20,020	19,008	3,504	4,182
Virginia	209	182	156,750	134,680	37,620	26,936
West Virginia	9	9	7,425	7,740	1,634	1,703
North Carolina	505	552	252,500	386,400	76,508	81,144
South Carolina	85	102	54,400	74,460	12,512	17,870
Georgia	11	17	5,940	11,237	1,544	3,371
Florida	3	4	3,300	4,292	1,551	2,146
Ohio	46	47	41,400	42,770	7,866	7,271
Indiana	18	22	16,200	19,800	2,754	3,267
Wisconsin	40	44	45,600	48,092	9,120	11,157
Missouri	5	6	4,500	6,600	1,305	1,848
Kentucky	525	578	446,250	494,190	87,019	82,036
Tennessee	130	146	94,250	109,500	20,735	19,710
Louisiana	1	1	450	465	248	232
United States	1,695	1,820	1,246,837	1,474,786	289,248	298,036

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 390.—*Tobacco: Acreage, production, and farm value, by types and districts, 1922 and 1923.*

Types and States.	Acreage.		Yield per acre.		Production.		Price per pound.[1]		Farm value.	
	1922	1923 [2]	1922	1923	1922	1923 [2]	1922	1923 [2]	1922	1923 [2]
	Acres.	*Acres.*	*Lbs.*	*Lbs.*	*1,000 pounds.*	*1,000 pounds.*	*Cents.*	*Cents.*	*1,000 dolls.*	*1,000 dolls.*
Cigar types:										
Massachusetts	9,000	10,000	1,068	1,410	9,612	14,100	37.8	43.8	3,633	6,176
Connecticut	28,000	29,000	1,045	1,388	29,260	40,252	40.2	46.5	11,792	18,717
New York	2,000	2,000	1,110	1,125	2,220	2,250	37.0	20.0	821	450
Pennsylvania	43,000	45,000	1,320	1,310	56,760	58,950	16.0	18.1	9,080	10,700
Ohio	28,900	27,600	910	920	26,299	25,530	14.0	14.0	3,682	3,574
Indiana	500	600	800	870	400	522	10.0	13.5	40	70
Wisconsin	40,000	44,000	1,140	1,068	45,600	48,092	20.0	23.2	9,120	11,157
Georgia	1,500	1,800	1,033	1,000	1,550	1,800	54.0	52.4	837	944
Florida	3,000	4,000	1,100	1,073	3,300	4,292	47.0	50.0	1,551	2,146
Total cigar types	155,900	164,000	1,123	1,194	175,001	195,788	23.2	27.5	40,556	53,934
Chewing, smoking, snuff, and export types:										
Burley—										
Virginia	1,800	2,200	1,000	1,100	1,800	2,420	26.6	20.0	479	484
West Virginia	8,400	8,500	827	860	6,945	7,310	22.5	22.5	1,562	1,643
Ohio	15,600	17,600	855	862	13,338	15,170	19.5	15.0	2,601	2,276
Indiana	11,000	14,400	854	867	9,400	12,488	26.0	16.0	2,632	1,998
Missouri	5,000	6,000	900	1,100	4,500	6,600	29.0	28.0	1,305	1,848
Kentucky	260,000	296,000	860	880	223,600	260,480	25.0	21.0	55,900	54,701
Tennessee	19,300	24,600	830	880	16,018	21,648	31.0	23.0	4,966	4,979
Total Burley	321,100	369,300	858	883	275,601	326,116	25.2	20.8	69,445	67,929
Paducah—										
Kentucky	72,000	78,500	825	810	59,400	63,585	13.3	11.1	7,900	7,058
Tennessee	21,500	25,000	760	760	16,340	19,000	13.0	11.0	2,124	2,090
Total Paducah	93,500	103,500	810	798	75,740	82,585	13.2	11.1	10,024	9,148
Henderson—										
Kentucky	80,000	83,500	893	880	71,440	73,480	15.0	12.2	10,716	8,965

TABLE 390.—*Tobacco: Acreage, production, and farm value, by types and districts, 1922 and 1923*—Continued.

Types and States.	Acreage.		Yield per acre.		Production.		Price per pound.[1]		Farm value.	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
	Acres.	*Acres.*	*Lbs.*	*Lbs.*	*1,000 pounds.*	*1,000 pounds.*	*Cents.*	*Cents.*	*1,000 dolls.*	*1,000 dolls.*
One Sucker—										
Indiana	6,500	7,000	985	970	6,400	6,790	10.0	10.5	640	713
Kentucky	38,000	39,500	875	815	33,250	32,195	13.2	11.0	4,323	3,541
Tennessee	13,900	16,600	775	760	10,772	12,616	11.0	10.0	1,185	1,262
Total One Sucker	58,400	63,100	863	818	50,422	51,601	12.2	10.7	6,148	5,516
Clarksville and Hopkinsville—										
Kentucky	72,000	77,500	780	800	56,160	62,000	13.2	12.1	7,863	7,502
Tennessee	73,500	77,000	680	700	49,980	53,900	18.0	13.0	8,996	7,007
Total Clarksville and Hopkinsville	145,500	154,500	729	750	106,140	115,900	15.9	12.5	16,859	14,509
Virginia sun cured	10,600	8,000	770	707	8,162	5,656	14.3	11.0	1,167	622
Virginia Dark	60,000	48,800	818	830	49,080	40,504	18.8	17.9	9,227	7,250
Old Belt—										
Virginia	136,600	123,000	715	700	97,708	86,100	29.3	22.8	28,628	19,631
North Carolina	240,000	255,000	467	641	112,000	163,400	31.0	22.0	34,720	35,948
Total Old Belt	376,600	378,000	557	660	209,708	249,500	30.2	22.3	63,348	55,579
New Belt—										
North Carolina	265,000	297,000	530	751	140,500	223,000	29.7	24.0	41,788	53,520
South Carolina	85,000	102,000	640	730	54,400	74,460	23.0	24.0	12,512	17,850
Georgia	9,000	14,700	462	625	4,160	9,187	21.8	27.6	907	2,608
Total New Belt	359,000	413,700	555	741	199,060	306,647	27.7	24.1	55,207	73,978
Maryland, eastern Ohio Export—										
Maryland	26,000	24,000	770	792	20,020	19,008	17.5	22.0	3,504	4,182
Ohio	1,500	1,800	1,175	1,150	1,763	2,070	17.0	15.0	300	311
West Virginia	500	400	800	860	400	344	15.0	14.0	60	48
Total Export	28,000	26,200	792	818	22,183	21,422	17.4	21.2	3,864	4,541
Other—										
Georgia	500	500	460	500	230	250	10.0	10.0	23	25
Tennessee	1,800	2,800	630	834	1,140	2,336	15.0	15.0	171	350
Kentucky	3,000	3,000	800	818	2,400	2,450	13.2	11.0	317	269
Louisiana	1,000	1,000	430	465	450	465	55.0	50.0	248	232
West Virginia	100	100	800	860	80	86	15.0	14.0	12	12
Total other	6,400	7,400	673	755	4,300	5,587	17.9	15.9	771	888
Total chewing, smoking, snuff, and export	1,539,100	1,656,600	696	772	1,071,836	1,278,998	23.0	19.4	246,776	248,925
Total, all types	1,695,000	1,820,000	736	810	1,246,837	1,474,786	23.0	20.5	287,332	302,859

Division of Crop and Livestock Estimates.

[1] The prices used in this report more nearly reflect the average price for the season than do the December 1 prices, and the values obtained differ from those published in the December, 1923, crop summary for that reason.

[2] Preliminary.

TABLE 391.—*Tobacco: Yield per acre, by States, calendar years, 1908–1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915
Massachusetts	1,650	1,600	1,730	1,650	1,700	1,550	1,646	1,750	1,100
Connecticut	1,680	1,650	1,730	1,625	1,700	1,550	1,651	1,770	1,350
New York	1,175	1,175	1,250	1,330	1,300	1,020	1,215	1,300	1,200
Pennsylvania	1,325	985	1,500	1,420	1,450	1,200	1,311	1,450	1,350
Maryland	700	710	690	735	660	740	707	800	740
Virginia	815	775	780	800	600	770	745	650	750
West Virginia	750	875	640	750	760	680	741	820	870
North Carolina	670	600	600	710	620	670	640	650	620
South Carolina	865	800	630	810	700	760	740	730	580
Georgia	975	700	680	900	830	1,000	822	1,000	880
Florida	990	710	680	940	840	1,000	834	1,000	910
Ohio	670	925	810	925	920	750	866	900	900
Indiana	700	950	880	910	800	750	858	900	840
Wisconsin	1,130	1,180	1,050	1,250	1,290	1,180	1,190	1,180	900
Missouri	875	885	1,050	800	1,000	650	877	1,200	900
Kentucky	815	835	810	880	780	760	813	910	810
Tennessee	800	730	760	810	660	720	736	820	750
Louisiana	850	550	550	450	300	450	460	400	420
United States	820.2	814.8	807.7	893.7	785.5	784.3	815.1	845.7	775.4

State.	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923
Massachusetts	1,660	1,400	1,500	1,540	1,550	1,500	1,370	1,068	1,410
Connecticut	1,630	1,400	1,500	1,565	1,480	1,528	1,454	1,045	1,388
New York	1,230	1,250	1,250	1,290	1,280	1,257	1,250	1,110	1,125
Pennsylvania	1,360	1,400	1,420	1,320	1,510	1,401	1,460	1,320	1,310
Maryland	770	790	830	675	875	783	715	770	792
Virginia	680	700	770	530	730	687	550	750	740
West Virginia	900	800	720	700	800	801	750	825	860
North Carolina	550	630	705	616	694	638	561	500	700
South Carolina	520	710	720	722	650	662	630	640	730
Georgia	1,180	1,000	800	530	600	856	584	540	661
Florida	1,210	1,100	960	950	1,050	1,026	900	1,100	1,073
Ohio	950	960	980	860	960	930	920	900	910
Indiana	930	950	930	800	900	893	875	900	900
Wisconsin	1,270	1,000	1,330	1,270	1,248	1,171	1,281	1,140	1,093
Missouri	950	940	900	1,000	1,000	984	925	900	1,100
Kentucky	900	900	960	800	850	876	846	850	855
Tennessee	800	810	800	810	730	789	750	725	750
Louisiana	450	350	420	434	500	425	450	450	465
United States	816.0	823.1	873.7	751.1	807.3	813.2	749.6	735.6	810.3

Division of Crop and Livestock Estimates.

TABLE 392.—*Tobacco: Condition of crop, 1st of month, and yield per acre, United States, 1867–1923.*

Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.[1]	Yield per acre.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*Lbs.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Lbs.*
1867	95.5	92.5	87.3	93.5	634.6	1900	88.5	82.9	77.5	76.1	778.2
1868	94.6	93.7	92.4	98.9	751.4	1901	86.5	72.1	78.2	81.5	788.1
1869	100.0	92.7	78.1	83.7	569.1	1902	85.6	81.2	81.5	84.1	797.3
1870	101.9	102.0	104.3	108.1	757.9	1903	85.1	82.9	83.4	82.3	780.3
1871	95.5	93.4	86.8	93.2	750.3	1904	85.3	83.9	83.7	85.6	819.0
1872	97.5	96.7	97.7	100.9	821.8	1905	87.4	84.1	85.1	85.8	815.6
1873	92.5	89.1	90.0	91.4	775.3	1906	86.7	87.2	86.2	84.6	857.2
1874	75.2	67.3	57.2	61.0	633.2	1907	81.3	82.8	82.5	84.8	850.5
1875	120.0	96.8	90.0	102.0	678.6	1908	86.6	85.8	84.3	84.1	820.2
1876	97.0	81.0	81.1	88.4	705.0	1909	89.8	83.4	80.2	81.3	814.8
1877	102.0	100.6	97.3	.....	.....	1910	85.3	78.5	77.7	80.2	807.7
1878	95.3	84.0	81.0	.....	723.1	1911	72.6	68.0	71.1	80.5	893.7
1879	88.0	77.0	87.0	.....	793.1	1912	87.7	82.8	81.1	81.8	785.5
1880	91.3	86.0	84.0	.....	740.7	1913	82.8	78.3	74.5	76.6	784.3
1881	95.0	85.0	65.0	.....	696.2	Av. 1909–1913	83.6	78.2	76.9	80.1	817.2
1882	96.2	87.0	90.0	95.4	764.1						
1883	95.0	88.0	80.0	77.9	706.9	1914	66.0	66.5	71.4	81.8	845.7
1884	95.2	95.3	94.0	90.2	747.2	1915	85.5	79.7	80.7	81.9	775.4
1885	96.0	91.0	86.3	88.3	747.8	1916	87.6	84.4	85.5	85.6	816.0
1886	92.4	81.8	81.2	86.6	709.9	1917	86.8	88.1	84.5	87.8	823.1
1887	84.2	73.1	70.8	73.8	645.2	1918	83.1	83.6	82.5	87.4	873.7
1888	91.3	86.1	87.0	85.7	757.1	1919	83.6	75.1	71.8	73.6	751.1
1889	89.9	84.4	76.2	80.7	658.5	1920	84.3	84.1	84.6	83.3	807.3
1890	88.2	69.2	82.4	85.4	722.8	Av. 1914–1920	82.4	80.2	80.1	83.1	813.2
1891	91.1	88.5	87.4	93.0	747.4	1921	71.9	66.6	70.5	75.6	749.6
1892	92.7	88.8	79.9	83.5	687.6	1922	82.4	80.9	76.2	78.9	735.6
1893	93.0	82.2	72.3	74.1	687.1	1923	82.5	83.1	86.6	84.6	810.3
1894	81.0	74.9	74.5	84.5	777.4						
1895	85.9	82.7	82.6	80.3	775.4						
1896	91.5	86.5	81.5	76.9	677.6						
1897	78.5	78.7	75.5	70.3	645.9						
1898	89.9	85.6	90.8	88.0	745.4						
1899	83.7	80.0	84.0	81.9	728.5						

Division of Crop and Live Stock Estimates.

[1] Condition at time of harvest.

TABLE 393.—*Tobacco: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1922.*

Calendar year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.[1]
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	5.5	6.8	1.1	0.7	0.8	0.1	0.2	15.3	0.7	2.6	.....	(2)	19.6
1910	4.8	6.8	1.2	.4	.3	(2)	.1	14.4	.7	2.8	.....	0.1	20.6
1911	16.7	.9	.....	.8	.1	.6	.....	19.5	.3	1.0	.....	.2	22.6
1912	7.6	4.8	.8	.5	1.0	.2	.2	15.3	.7	2.8	.....	.1	21.2
1913	15.3	.7	.4	1.2	1.2	.3	.6	20.0	.1	3.0	.....	(2)	25.0
1914	18.1	.2	.1	.4	.6	.3	.1	20.1	(2)	2.7	.....	.1	24.8
1915	3.9	8.2	.9	1.2	.8	.1	.9	16.3	.6	4.0	.....	.1	23.5
1916	3.5	5.5	1.3	1.3	1.0	.1	.8	14.0	.3	2.8	.....	(2)	18.4
1917	3.3	2.2	.5	3.3	1.2	.1	.2	11.1	.2	2.1	.....	.1	15.2
1918	8.6	.4	.2	.7	1.1	.2	.2	11.4	.3	2.1	.....	.1	14.2
1919	8.9	7.9	.6	.2	1.1	.1	.2	19.2	.6	2.8	.....	(2)	23.0
1920	2.3	7.0	.6	.7	1.0	.....	.1	11.7	5.5	2.6	.....	.....	21.0
1921	18.9	2.2	.1	.3	.7	.4	.2	22.9	1.6	3.2	.....	.....	28.2
1922	7.0	4.5	.3	.4	1.4	.1	.2	14.3	1.6	2.5	.....	(2)	18.7

Division of Crop and Livestock Estimates.

[1] Includes all other causes.

[2] Less than 0.05 per cent.

TABLE 394.—*Tobacco: Area and yield per acre for nine of the largest producing countries, 1909–1923.*

Country.	Area.					Yield per acre.				
	Average 1909–1913.	1920	1921	1922	1923, preliminary.	Average 1909–1913	1920	1921	1922	1923, preliminary.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	1,223	1,960	1,427	1,695	1,820	814.4	807.3	749.6	735.6	810.3
France	37	[1] 29	32	33	[2]	1,223.6	1,587.3	1,643.1	1,426.1	
Italy	22	33	48	55	54	1,009.1	856.5	898.9	917.9	
Germany	39	32	25	28	[2]	1,706.1	2,064.4	2,039.2	[2]	[2]
Hungary	121	51	49	44	42	1,211.8	1,076.7	830.7	782.5	
Bulgaria	20	95	58	54	77	692.8	680.0	619.4	729.3	710.0
Rumania	24	58	43	53	[2]	684.4	650.0	537.7	523.6	
Algeria	25	47	54	27	51	936.8	856.0	919.1	762.2	785.3
Philippine Islands	[3] 154	250	225	148	158	422.1	572.3	517.3	445.8	441.8

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

[1] Beginning with 1920, figures include Alsace Lorraine. [2] Figures not available. [3] Four-year average.

TABLE 395.—*Tobacco: Production in undermentioned countries.*

NORTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, preliminary.
NORTH AMERICA.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Canada	[1] 15,066	8,495	14,232	33,770	48,088	13,249	25,950	
United States	996,049	1,249,276	1,439,071	1,465,481	1,582,225	1,069,693	1,246,837	1,474,786
Mexico			27,963			14,436	23,085	
Guatemala	256		1,049				143	
Cuba	73,666	61,118	81,039		120,624	40,299	30,399	
Dominican Republic	[2] 25,417			29,983	50,044	14,991	14,991	
Porto Rico	[3] 10,828	25,410	25,772	19,363	15,474	24,712	24,710	26,000
Jamaica	[2] 490							
EUROPE.								
Sweden	[4] 1,744	1,477	1,389	1,702	1,691	1,435	1,164	1,323
Denmark	[4] 258	803		2,518				
Belgium	20,733			35,052	13,485	10,190	7,333	8,609
France	[5] 45,273	39,361	25,123	34,666	46,031	52,578	47,002	
Italy	22,200	11,684	[6] 19,841	21,170	28,263	43,145	50,485	
Switzerland	[4] 1,374	882		661	860	816	790	790
Germany	[5] 66,536	59,815	45,973	39,984	66,061	65,980		
Austria	[5] 13,693							
Czechoslovakia					3,893		4,548	
Hungary	146,626				54,912	40,705	34,430	
Yugoslavia	3,739				17,210	26,046	20,700	45,000
Greece	28,021	61,233	66,912	65,463	69,850	49,863	38,940	
Bulgaria	13,857	32,647	57,567	48,284	64,604	35,923	39,380	54,670
Rumania	16,426		13,481	27,010	37,699	23,121	27,750	
Russia, included Ukraine and northern Caucasia	[5] 232,949							
AFRICA.								
Algeria	23,421	35,274	49,118	31,658	40,234	49,630	20,580	40,050
Tunis	265	377	484	628	671	1,069	882	990
ASIA.								
India, British	450,000							
British North Borneo			1,520	1,857	1,265	1,160		
Ceylon							10,000	
Japanese Empire:								
Japan	93,717	90,607	79,780	113,361	137,193	134,899	149,610	
Chosen	25,510	31,084	32,124	31,609	34,190			
Formosa	1,120	1,610	880	1,495	2,250	4,270	3,760	
Russia (Asiatic)	[5] 30,939							
Philippines	65,005	107,868	135,705	124,555	143,004	116,401	65,977	69,798

[1] Two-year average.
[2] Three-year average.
[3] One year only.
[4] Four-year average.
[5] Old boundaries.
[6] Exclusive of invaded territory.

TABLE 395.—*Tobacco: Production in undermentioned countries.*—Continued.

SOUTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
SOUTH AMERICA.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Chile	3,834	10,958	6,929	6,739	9,521			
Brazil		99,207		162,362	177,461			
Uruguay	2,045	950	1,836	480	1,836	329		
Paraguay	17,844	30,804				21,280		
Argentina	12,635	9,308		22,253	33,360	38,283		
AFRICA.								
Union of South Africa	[3] 14,961	14,931	[7] 14,183	11,644	15,006	9,813		
Rhodesia	[4] 1,992	620	1,468	2,927	3,747	3,182	3,500	
Nyasaland	3,017	4,776	2,594	3,997	3,844	6,736		
OCEANIA.								
Dutch East Indies:								
Java and Madura	94,302	57,096	41,829	100,640	68,911	83,041		
Sumatra, East Coast	46,278	44,788	51,800	12,743				
Australia	2,135	459	2,664	2,651	992	1,086		
Fiji					54	184		
Total comparable with 1909–1913	2,624,221							
Total comparable with 1923					1,879,518	1,335,915	1,428,353	1,722,007

Division of Statistical and Historical Research.
Official sources and International Institute of Agriculture, Rome, unless otherwise stated.
Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[3] One year only.
[4] Four-year average.
[7] Exclusive of native reserves (production of 2,428,553 pounds in 1917–18 and 1,614,400 pounds in 1920–21)

TABLE 396.—*Tobacco: Farm price per pound, December 1, by States, calendar years, 1908–1923, and value per acre, 1923.*

State.	1908	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	Value per acre 1923.[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dol.*
Massachusetts	15.5	14.0	15.0	20.0	23.9	21.0	18.8	17.7	14.5	25.0	38.4	40.0	46.3	40.6	31.8	36.0	37.8	43.8	617.58
Connecticut	17.0	16.5	16.5	20.5	24.1	21.0	19.7	18.5	17.0	27.0	38.4	44.0	46.3	35.0	32.3	41.0	40.3	46.5	645.42
New York	9.5	8.0	8.5	10.4	12.6	12.2	10.3	12.0	9.5	13.0	22.0	18.0	22.5	27.0	17.7	19.3	37.0	20.0	225 00
Pennsylvania	10.5	9.0	9.3	9.5	8.5	7.5	8.8	8.5	9.2	14.2	21.0	14.0	17.0	20.0	14.8	14.4	16.0	18.1	237.11
Maryland	7.5	8.3	7.7	7.5	8.0	9.3	8.2	8.0	8.5	16.0	20.0	30.0	30.0	29.0	20.2	19.0	17.5	22.0	174.24
Virginia	9.2	8.5	9.0	9.6	12.0	13.9	10.6	9.0	9.4	14.6	26.5	27.0	47.4	24.0	22.6	20.5	24.0	20.0	148.00
West Virginia	14.0	13.2	10.3	8.0	11.0	12.0	10.9	11.0	10.0	15.0	30.0	36.6	50.0	25.0	25.4	24.0	22.0	22.0	189.20
North Carolina	10.5	9.5	10.6	11.6	16.0	18.5	13.2	11.5	11.2	20.0	31.5	35.1	53.6	25.3	26.9	26.0	30.3	21.0	147.00
South Carolina	10.0	7.3	8.6	12.6	10.9	13.8	10.6	9.7	7.0	14.0	23.1	31.1	22.8	15.0	17.5	11.0	23.0	24.0	175.20
Georgia	35.0	34.0	20.0	28.0	30.0	31.0	28.6	25.0	23.0	27.0	57.0	46.0	21.5	37.0	33.8	25.0	26.0	30.0	198.30
Florida	35.0	34.0	23.0	28.0	30.0	31.0	29.2	30.0	23.0	30.0	57.0	46.0	54.5	48.0	41.2	40.0	47.0	50.0	536.50
Ohio	10.5	10.5	8.5	7.6	9.1	11.4	9.4	8.8	9.0	13.0	25.0	19.5	33.7	13.0	17.4	15.0	19.0	17.0	154.70
Indiana	12.0	11.0	9.5	7.8	9.0	11.0	9.7	9.0	7.3	13.0	24.0	20.7	35.2	14.0	17.6	15.0	17.0	16.6	149.40
Wisconsin	10.0	9.2	7.5	10.0	11.0	12.0	9.9	11.0	6.0	12.5	17.5	22.0	22.2	25.9	16.7	12.5	20.0	23.2	253.58
Missouri	12.5	13.0	12.0	12.0	12.0	12.7	12.3	13.0	12.0	15.0	21.2	25.0	36.0	33.0	22.2	20.0	29.0	28.0	308.00
Kentucky	9.1	10.6	8.7	7.7	8.7	10.0	9.1	8.4	7.8	12.7	22.7	26.3	38.2	15.0	18.7	15.5	19.5	16.6	141.93
Tennessee	9.0	7.8	8.4	8.5	7.1	8.4	8.0	7.5	6.3	10.1	17.0	21.4	25.1	20.0	15.3	20.0	22.0	18.0	135.00
Louisiana	32.0	37.0	25.0	31.0	30.0	25.0	29.6	35.0	30.0	28.0	35.0	65.0	65.0	40.0	42.6	55.0	55.0	50.0	232.50
United States	10.3	10.1	9.3	9.4	10.8	12.8	10.5	9.8	9.1	14.7	24.0	28.0	39.0	21.2	20.8	19.9	23.2	20.3	164.25

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 397.—*Tobacco (unmanufactured): International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.								
	1,000 lbs	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Algeria	4,776	11,681	6,408	23,724	6,781	21,896	8,513	33,549
Brazil	620	59,991	2,176	67,376	2,024	71,718	----------	98,563
British India	6,538	28,874	10,121	30,379	7,284	30,987	8,053	26,895
Bulgaria	(1)	4,310	----------	38,793	----------	----------	----------	----------
Ceylon	----------	4,093	4	3,590	3	2,411	4	4,335
Cuba	141	38,035	(1)	28,058	----------	----------	----------	----------
Dominican Republic	----------	22,395	----------	36,225	----------	20,221	----------	16,602
Dutch East Indies	8,074	163,823	322	274,379	491	100,250	[2] 455	[2] 79,598
Greece	12,024	18,113	157	59,276	443	57,750	128	81,036
Hungary	----------	----------	----------	----------	----------	----------	5,512	7,569
Paraguay	----------	11,361	18,963	----------	----------	----------	----------	----------
Persia	707	3,874	230	2,550	----------	----------	----------	----------
Philippine Islands	45	26,018	763	45,578	342	49,270	181	35,433
Russia	1,064	23,283	----------	----------	----------	----------	----------	----------
United States	52,768	381,127	82,221	479,900	52,994	522,756	77,693	441,868
PRINCIPAL IMPORTING COUNTRIES.								
Aden	11,619	7,739	9,603	6,452	----------	----------	----------	----------
Argentina	14,988	41	21,935	453	----------	----------	----------	----------
Australia	13,740	(1)	21,955	(1)	17,104	----------	----------	----------
Austria	----------	----------	14,461	287	24,108	422	----------	----------
Austria-Hungary	49,984	23,192	----------	----------	----------	----------	----------	----------
Belgium	22,094	33	36,400	419	36,142	220	44,734	702
Canada	17,891	433	21,121	778	19,925	884	14,454	1,735
China	15,113	25,487	30,310	36,982	29,504	26,891	33,871	26,269
Czechoslovakia	----------	----------	23,635	102	25,825	----------	57,702	(1)
Denmark	8,774	100	15,900	76	5,977	(1)	9,289	----------
Egypt	19,005	----------	19,287	244	17,394	13	----------	----------
Finland	9,597	----------	4,947	----------	2,964	----------	4,297	----------
France	63,914	26	76,615	971	85,027	2,599	128,453	1,717
Germany	168,437	116	196,160	876	[3] 196,277	[3] 961	175,328	989
Italy	47,732	3,008	74,246	79	63,417	----------	49,333	2
Netherlands	57,218	3,786	86,797	10,175	64,322	5,009	49,643	4,667
Norway	3,994	----------	6,874	----------	4,750	----------	4,982	----------
Poland	----------	----------	14,376	252	----------	----------	----------	----------
Portugal	6,565	279	----------	----------	----------	----------	----------	----------
Spain	51,026	----------	73,659	----------	42,766	----------	27,058	----------
Sweden	9,772	1	12,778	110	8,783	394	----------	----------
Switzerland	17,949	47	29,003	112	5,792	----------	10,641	11
United Kingdom	117,956	4,603	209,721	4,850	211,500	5,273	173,381	9,203
Other countries	32,694	62,740	42,606	16,287	26,285	10,398	5,460	7,438
Total	846,929	928,609	1,163,754	1,175,333	958,244	930,323	889,160	878,181

Division of Statistical and Historical Research. Official sources.
Tobacco comprises leaf, stems, and strippings, but not snuff.

[1] Less than 500 pounds.
[2] Java and Madura only.
[3] Eight months, May–December.

TOBACCO.

TABLE 398.—*Tobacco: Wholesale price per pound, 1907–1923.*

Calendar year.	Hopkinsville. Leaf, common to fine.			Louisville. Leaf (burley, dark red), common to good.			Richmond. Leaf, smokers', common to fine.			Baltimore. Leaf (Maryland), medium to fine red.		
	Low.	High.	Average.[1]	Low.	High.	Average.[1]	Low.	High.	Average.[1]	Low.	High.	Average.[1]
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1907	6.50	16.00	11.19	6.50	14.50	10.65	8.00	13.00	10.50	6.50	12.00	9.48
1908	7.50	20.00	12.75	9.00	19.00	13.67	8.00	13.00	10.50	6.50	13.00	9.85
1909	6.00	14.00	9.85	12.00	18.50	15.35	7.00	13.00	10.28	8.50	13.00	10.75
1910	5.50	17.50	11.09	8.00	17.00	13.55	7.00	13.00	10.00	8.50	13.00	10.75
1911	7.00	18.00	12.10	6.00	12.75	9.39	7.00	13.00	10.00	8.50	13.00	10.75
1912	8.00	16.00	11.69	7.00	13.00	9.62	7.00	15.00	10.83	8.50	15.00	11.00
1913	7.00	14.00	11.02	7.00	16.00	11.23	7.00	20.00	11.58	8.50	15.00	11.75
Low, high, and av. 1909–1913	5.50	18.00	11.15	6.00	18.50	11.83	7.00	20.00	10.54	8.50	15.00	11.00
1914	7.50	14.00	11.05	9.00	16.00	12.71	7.00	20.00	13.40	8.00	15.00	11.46
1915	4.00	12.50	8.08	8.00	15.00	11.88	6.00	18.00	11.07	8.00	14.00	10.83
1916	5.00	14.50	9.45	10.00	19.00	13.33	6.00	20.00	11.66	9.00	21.00	14.69
1917	10.00	20.50	13.61	13.00	32.00	20.71	9.00	30.00	17.06	17.00	28.00	22.21
1918	14.00	25.00	18.63	25.00	44.00	34.34	16.00	45.00	23.62	22.00	49.00	33.56
1919	12.14	36.50	23.68	10.00	48.00	26.92	15.00	45.00	27.31	26.00	53.00	37.22
1920	14.00	53.00	27.02	13.00	42.00	27.05	10.00	37.00	23.56	25.00	58.00	41.19
Low, high, and av. 1914–1920	4.00	53.00	15.93	8.00	48.00	20.99	6.00	45.00	18.24	8.00	58.00	24.45
1921	8.00	55.00	24.47	7.00	30.00	17.83	7.00	30.00	12.66	18.00	58.00	30.52
1922	10.00	40.00	23.81	12.00	35.00	22.12	7.00	16.00	11.10	18.00	50.00	32.83
1923	10.00	40.00	[2]22.87	14.00	35.00	23.83	7.00	18.00	12.46	18.00	56.00	33.12
1923.												
January	12.00	40.00	23.38	18.00	35.00	26.50	7.00	16.00	11.50	18.00	50.00	34.00
February	12.00	[3]39.00	[4]24.50	18.00	35.00	26.50	7.00	16.00	11.50	18.00	50.00	34.00
March	12.00	[3]34.50	[4]22.25	18.00	35.00	26.50	7.00	16.00	11.50	18.00	50.00	34.00
April	12.00	[3]33.00	[4]22.33	14.00	35.00	25.00	7.00	16.00	11.50	18.00	42.00	29.25
May	12.00	[3]33.00	[4]22.25	14.00	35.00	24.50	7.00	16.00	11.50	18.00	42.00	30.00
June	------	------	------	14.00	35.00	23.30	7.00	16.00	11.50	18.00	42.00	30.00
July	------	------	------	15.00	30.00	22.50	7.00	18.00	13.00	18.00	42.00	30.00
August	------	------	------	15.00	30.00	22.50	9.00	18.00	13.50	18.00	42.00	30.00
September	------	------	------	15.00	30.00	22.50	9.00	18.00	13.50	18.00	50.00	31.69
October	------	------	------	15.00	30.00	22.50	9.00	18.00	13.50	23.50	50.00	36.75
November	------	------	------	15.00	30.00	22.50	9.00	18.00	13.50	23.50	50.00	36.75
December	10.00	35.00	22.50	14.00	30.00	21.00	9.00	18.00	13.50	26.00	56.00	41.00

Division of Statistical and Historical Research. Compiled from Western Tobacco Journal, Richmond Grain Exchange Price Current, and Baltimore Daily Price Current.

[1] Monthly averages are computed from weekly ranges. Yearly averages 1907 to 1917, inclusive, for Hopkinsville, Louisville and Baltimore, are simple averages of monthly ranges. All other yearly averages are simple averages of the monthly averages.
[2] Largely common to good.
[3] Good.
[4] Average common to good.

COFFEE.

TABLE 399.—*Coffee: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Brazil		1, 672, 282		1, 524, 478		1, 636, 119		1, 676, 334
British India	[1] 605	27, 780	5, 655	19, 407	2, 366	30, 070	5, 595	19, 459
Colombia		104, 398		[2] 190, 962		[3] 310, 205		
Costa Rica		27, 515		[2] 30, 860		29, 406		41, 043
Dutch East Indies	4, 227	54, 149	2, 080	137, 223	1, 961	96, 323	[3] 37	[3] 95, 491
Guatemala		85, 951		207, 685		[2] 95, 199		[3] 95, 192
Haiti		61, 943		68, 292		45, 690		
Jamaica		8, 263		4, 622		[3] 7, 233		[3] 7, 081
Nicaragua	[4] 138	19, 033		[3] 15, 344		[3] 29, 938		
Salvador	[5] 1, 593	62, 830		82, 866	(6)	62, 418		[3] 94, 972
Venezuela		111, 326		73, 727		121, 965		[3] 143, 248
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	28, 125		38, 811					
Austria			6, 274	242	11, 909	302	[3] 9, 794	[3] 185
Austria-Hungary	128, 304	8						
Belgium	111, 738	33, 627	84, 469	3, 411	105, 366	21, 538	84, 781	2, 437
British Malaya	[3] 7, 524	[3] 7, 137	27, 025	27, 742	19, 981	15, 121	[3] 25, 970	[3] 22, 160
Canada	13, 378	55	19, 493	17	19, 876	10	21, 303	21
Cuba	24, 900	4	44, 425	3				
Czechoslovakia			[3] 11, 215	[3] 124	25, 592	(6)	23, 933	
Denmark	33, 102	152	44, 823	402	43, 724	380	50, 815	214
Egypt	15, 654		22, 530	3, 408	20, 722	226	[3] 21, 744	37
Finland	28, 624		14, 953	[3] 2	27, 913		30, 524	
France	215, 752	41	323, 254	1, 983	338, 590	1, 158	386, 293	685
Germany	399, 965	1, 757	90, 602	62	[3] 228, 608	[7] 211	81, 162	172
Hungary			[3] 3, 043		[3] 5, 709	[3] 13	[3] 7, 119	[3] 197
Italy	58, 278	458	66, 509	14	105, 594	13	104, 195	5
Netherlands	233, 633	189, 288	133, 749	37, 551	136, 567	66, 568	129, 148	55, 944
Norway	29, 309		24, 853		29, 981		39, 425	
Russia	26, 073		[3] 1, 198					
Spain	29, 317	9	48, 519	5	48, 219	56	41, 235	17
Sweden	74, 486	24	96, 820	2, 355	88, 707	926	77, 660	[3] 161
Switzerland	25, 029	62	22, 777	75	31, 583	48	29, 259	43
Union of South Africa	26, 458	36	28, 753	51	29, 906	64	29, 924	17
United Kingdom	28, 581	241	27, 434	108	165	87	89, 797	
United States	907, 899	[8] 44, 251	1, 297, 439	30, 757	1, 340, 980	34, 573	1, 246, 061	26, 750
Other countries	82, 156	95, 727	126, 998	101, 854	135, 318	60, 897	80, 336	78, 928
Total	2, 614, 854	2, 608, 347	2, 615, 710	2, 571, 631	2, 800, 427	2, 666, 757	2, 616, 110	2, 360, 793

Division of Statistical and Historical Research. Official sources except where otherwise noted.
The item of coffee comprises unhulled and hulled, ground or otherwise prepared, but imitation or "surrogate" coffee and chicory are excluded.

[1] Four-year average.
[2] International Institute of Agriculture.
[3] Java and Madura only.
[4] Three-year average.
[5] One year only.
[6] Less than 500 pounds.
[7] Eight months, May–December.
[8] Chiefly from Porto Rico.

TABLE 400.—*Coffee, Rio, No. 7: Average wholesale price per pound, New York, 1890–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1890	16.8	17.0	18.0	18.7	17.6	18.1	17.6	17.9	18.8	18.9	18.0	17.9	17.9
1891	17.4	17.5	18.4	18.5	18.6	18.2	17.5	17.5	16.2	14.1	12.9	13.6	16.7
1892	13.0	13.9	15.0	14.2	12.8	12.9	12.9	13.3	14.8	15.4	16.3	17.1	14.3
1893	17.1	18.1	18.0	17.4	15.5	17.0	16.5	16.2	16.6	18.2	18.3	17.8	17.2
1894	18.4	17.4	17.2	17.6	16.5	15.8	16.6	16.3	16.0	15.7	15.1	15.8	16.5
1895	15.6	16.2	16.8	16.5	16.0	15.9	15.6	16.2	16.1	15.9	15.7	14.4	15.9
1896	14.2	13.1	12.3	13.8	13.9	13.2	13.0	11.5	10.6	10.4	11.0	10.0	12.3
1897	10.2	9.8	9.6	8.0	8.0	7.6	7.4	7.4	6.9	7.1	6.8	6.4	7.9
1898	6.5	6.4	6.2	6.0	7.0	6.5	6.3	6.1	6.4	6.2	5.9	6.4	6.3
1899	6.8	6.8	6.2	6.1	6.3	6.2	6.1	5.8	5.6	5.5	6.1	6.9	6.2
1900	7.2	8.4	8.4	7.7	7.9	8.2	8.9	9.4	8.5	8.2	8.4	7.5	8.2
1901	7.2	7.0	7.6	6.8	6.2	6.2	6.0	5.6	5.6	5.8	6.4	7.1	6.5
1902	7.3	6.0	5.9	6.1	5.7	5.7	5.5	6.1	5.8	5.4	5.5	5.4	5.9
1903	5.4	5.4	5.8	5.4	5.2	5.2	5.4	5.2	5.2	5.8	6.4	6.5	5.6
1904	7.8	9.3	6.9	6.9	7.2	7.0	7.2	7.5	8.6	8.4	8.4	8.6	7.8
1905	9.0	8.7	7.9	7.8	7.9	7.9	7.8	8.6	8.9	8.7	8.3	8.3	8.3
1906	8.1	8.4	8.4	8.1	8.0	7.5	7.8	8.9	8.4	8.4	7.8	7.5	8.1
1907	7.1	6.9	7.2	7.0	6.8	6.5	6.3	6.5	6.3	6.4	6.0	5.9	6.6
1908	6.1	6.3	6.3	6.1	6.1	6.4	6.4	6.2	6.1	6.3	6.5	6.6	6.3
1909	7.1	7.7	8.2	8.2	8.3	8.1	7.4	7.5	7.3	7.3	8.3	8.6	7.8
1910	8.7	8.7	8.8	8.8	8.4	8.2	8.4	8.7	10.2	11.1	11.1	13.2	9.5
1911	13.4	13.1	12.6	12.3	12.4	12.3	13.3	13.2	13.4	14.2	15.8	14.9	13.4
1912	14.5	14.2	14.4	14.8	14.4	14.2	14.8	14.3	14.6	14.8	15.0	15.4	14.6
1913	13.9	13.5	12.5	11.9	11.4	11.1	9.8	9.6	9.2	10.2	10.8	9.6	11.1
Av. 1909–1913	11.5	11.4	11.3	11.2	11.0	10.8	10.7	10.7	10.9	11.5	12.2	12.3	11.3
1914	9.1	9.5	9.2	8.9	8.8	9.1	8.8	7.5	7.6	6.6	6.4	6.3	8.2
1915	7.2	8.2	7.8	8.1	7.8	7.0	7.4	7.4	6.8	6.8	7.5	7.6	7.5
1916	7.6	8.2	9.2	9.5	9.8	9.9	9.0	9.5	9.9	9.5	9.5	9.2	9.2
1917	9.8	10.0	9.8	9.5	10.1	10.4	9.5	9.1	9.1	8.5	7.9	7.6	9.3
1918	8.5	8.4	8.9	9.0	8.7	8.4	8.6	8.5	9.6	10.4	10.7	17.3	9.8
1919	15.5	15.4	16.0	17.0	19.3	21.1	23.0	21.5	16.6	16.5	17.0	15.2	17.8
1920	16.3	14.8	15.0	15.1	15.6	15.0	13.1	9.4	8.2	7.6	7.5	6.6	12.0
Av. 1914–1920	10.6	10.6	10.8	11.0	11.4	11.6	11.3	10.4	9.7	9.4	9.5	10.0	10.5
1921	6.7	6.7	6.4	6.0	6.2	6.7	6.5	7.0	7.9	8.1	8.8	9.3	7.2
1922	9.6	9.0	9.6	10.8	11.0	11.0	10.4	10.0	10.2	10.2	10.8	11.1	10.2
1923	11.9	13.0	13.0	11.5	11.6	11.7	10.9	10.7	10.7	11.1	11.0	10.9	11.5

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TEA.

TABLE 401.—*Tea: International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920.		1921.		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
British India	8,002	267,887	11,466	270,957	11,581	349,086	14,603	311,633
Ceylon	[1] 1	189,016	1	184,770	1	160,732	1	171,808
China	18,890	197,997	6,069	40,537	6,387	57,358	13,656	76,463
Dutch East Indies	6,742	46,675	6,730	100,703	6,704	77,518	[2] 6,071	[2] 76,678
Formosa	68	23,640	155	14,377	[2] 89	[2] 17,931	[2] 73	[2] 11,271
Japan	590	35,823	540	26,438	996	15,863	[2] 1,469	[2] 25,498
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	3,880		3,262					
Australia	35,442	(4)	34,060		43,402		[2] 42,806	
Austria			864	28	858	74	[2] 1,001	[2] 11
Austria-Hungary	3,424	3						
British Malaya	[2] 11,983	[2] 5,318	11,453	4,067	7,191	1,338	[2] 9,370	[2] 3,686
Canada	37,927		36,740		35,653		40,050	
Chile	3,505		4,690		3,036		[2] 1,540	
Czechoslovakia			[2] 1,066	[2] 3	1,132	[2] 3	1,009	[2] 2
Egypt	1,950		4,327	749	3,938	173	[2] 4,570	157
France	2,806	61	4,017	160	2,462	195	2,740	113
French Indo-China	3,295	1,145	2,726	787	[2] 3,622	[2] 1,376	[2] 3,391	[2] 1,136
Germany	8,904	23	3,850	25	[2] 11,854	[2] 16	6,178	23
Hungary			[2] 679		[2] 528		[2] 1,075	[2] 35
Morocco	6,696		5,697		6,011		[2] 8,765	
Netherlands	11,383	45	23,407	63	26,697	43	26,226	31
New Zealand	7,542		12,838		6,195		8,708	
Persia	9,446	125	6,623	490	[2] 7,426	[2] 786		
Poland			3,771		[2] 3,917	[2] 56	[2] 2,260	[2] 108
Russia	157,704	866	[2] 64		[2] 1,387			
Union of South Africa	5,192	61	6,673	47	8,136	23	9,326	252
United Kingdom	293,045		389,915		412,848		376,849	
United States	98,897		90,247		76,487		97,097	
Other countries	31,268	7,237	25,569	8,670	21,419	915	19,241	1,570
Total	768,652	775,922	697,499	652,871	709,957	683,486	698,135	680,475

Division of Statistical and Historical Research. Official sources except where otherwise noted.
"Tea" includes tea leaves only and excludes dust, sweepings, and yerba mate.

[1] Two-year average.
[2] Java and Madura only.
[3] International Institute of Agriculture.
[4] Less than 500 pounds.
[5] Eight months, May–December

TABLE 402.—*Tea, Formosa, fine: Average wholesale price per pound, New York, 1890–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver-age.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1890	26.5	26.5	26.5	26.5	24.0	24.0	24.0	24.0	34.0	32.0	32.0	28.0	27.3
1891	28.0	29.0	29.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.2
1892	28.0	28.0	28.0	28.0	29.0	30.5	27.0	32.5	32.5	32.5	32.5	32.5	30.1
1893	32.5	29.0	29.0	29.0	29.0	29.0	29.0	28.0	28.0	28.0	28.0	28.0	28.9
1894	28.0	28.0	28.0	28.0	26.5	26.5	26.5	26.5	29.0	29.0	29.0	29.0	27.8
1895	29.0	29.0	29.0	29.0	29.0	29.0	25.0	25.0	25.0	25.0	25.0	25.0	27.0
1896	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	26.5	26.5	28.5	28.5	25.8
1897	28.5	28.5	28.0	28.0	28.0	28.5	25.0	28.5	28.5	28.5	28.5	27.5	28.0
1898	27.5	26.5	26.5	26.5	27.0	27.0	31.0	31.0	33.0	33.6	33.0	33.0	29.6
1899	29.5	32.5	32.5	32.5	31.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	31.2
1900	30.8	30.8	30.8	30.8	30.8	29.5	29.5	29.5	29.5	28.5	28.5	28.5	29.8
1901	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
1902	28.8	28.8	28.8	28.8	28.8	28.8	30.0	30.0	30.5	32.2	33.2	33.2	30.2
1903	23.0	23.0	23.0	23.0	23.0	22.5	22.0	22.0	21.5	20.5	26.0	26.0	23.0
1904	26.0	26.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	27.5	27.5	27.6
1905	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	25.5	25.5	25.5	24.5	26.8
1906	24.5	24.5	24.5	24.5	24.5	24.5	21.5	21.5	23.0	23.0	23.0	23.0	23.5
1907	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
1908	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	21.3
1909	24.0	18.5	18.5	23.5	25.0	25.0	25.0	24.0	24.0	24.0	24.0	24.0	23.3
1910	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
1911	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.2
1912	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
1913	24.5	24.5	24.5	24.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	24.8
Av. 1909–1913	24.2	23.1	23.1	24.1	24.5	24.5	24.5	24.4	24.4	24.4	24.4	24.4	24.2
1914	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	24.0	24.0	24.8
1915	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
1916	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
1917	24.0	24.0	24.0	24.0	26.3	28.3	36.5	36.5	36.5	36.5	35.5	35.5	30.6
1918	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	36.3	36.5	36.5	36.5	35.8
1919	36.5	36.5	35.3	34.0	34.3	35.0	35.0	35.0	35.0	35.0	36.1	36.5	35.4
1920	36.5	36.5	36.5	36.5	36.5	36.5	36.5	34.3	31.0	31.0	28.6	23.8	33.7
Av. 1914–20	29.4	29.4	29.2	29.0	29.4	29.8	30.9	30.6	30.3	30.3	29.8	29.2	29.8
1921	24.5	24.5	24.5	24.1	22.4	22.0	22.0	22.0	22.3	23.0	28.0	29.0	24.0
1922	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.5	30.5	31.0	31.0	30.2
1923	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

VEGETABLE OILS.

TABLE 403.—*Exports of vegetable oils from the United States, 1910–1923.*

Year ending June 30.	Corn.	Cotton-seed.	Linseed.	Cocoa butter or butterine.	Coco-nut.	Peanut.	Soy bean.
	1,000 pounds.	*1,000 pounds.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1909–10	11,299	223,955	228				
1910–11	25,317	225,521	175				
1911–12	23,806	399,471	247				
1912–13	19,839	315,233	1,734				
1913–14	18,282	192,963	239				
1914–15	17,790	318,367	1,212				
1915–16	8,968	266,512	714				
1916–17	8,780	188,912	1,202				
1917–18	1,831	100,780	1,188				
1918–19	1,095	178,709	1,096				
1919–20	12,483	159,400	1,136	11,048	141,088	4,922	67,782
1920–21	6,919	283,268	561	3,171	6,039	1,595	5,118
1921–22	5,280	91,615	366	1,856	10,185	1,802	537
1922–23	5,224	64,301	404	957	12,993	188	2,495

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

TABLE 404.—*Imports of vegetable oils into the United States, 1910–1923.*

Year ending June 30.	Castor.	Chinese nut.	Cocoa butter or butterine.	Coconut.	Cotton-seed.	Linseed.	Olive.	Palm.	Palm kernel.	Peanut.	Rapeseed.	Soy bean.
	1,000 galls.	*1,000 galls.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 galls.*	*1,000 galls.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 galls.*	*1,000 galls.*	*1,000 lbs.*
1909–10	7	[1] 5,760	3,370	48,346	[2]	[2]	4,545	92,772	[2]	[2]	[4] 1,083	[2]
1910–11	7	[1] 7,042	4,279	51,118	[2]	[2]	4,984	57,100	[2]	[2]	[4] 1,363	[2]
1911–12	8	4,768	6,075	46,371	1,513	737	5,473	47,159	25,393	896	1,183	28,021
1912–13	5	5,997	3,603	50,504	3,384	174	5,840	50,229	23,569	1,196	1,550	12,340
1913–14	189	4,932	2,839	74,386	17,293	192	6,981	58,040	34,328	1,337	1,464	16,300
1914–15	63	4,940	150	63,135	15,162	535	7,364	31,486	4,906	853	1,499	19,207
1915–16	253	4,968	400	66,008	17,181	50	8,109	40,497	6,761	1,475	2,561	98,120
1916–17	324	6,864	166	79,223	13,703	111	8,184	36,074	1,857	3,026	1,085	162,690
1917–18	1,175	4,816	[3]	259,195	14,291	51	2,652	27,405	19	8,289	3,056	336,825
1918–19		6,217	3	344,728	20,410	990	4,398	19,281	1,945	11,393	2,091	236,805
1919–20		10,614	42	271,540	24,165	4,550	7,029	50,165	54	22,064	1,230	195,774
1920–21		4,440	915	173,889	1,315	1,997	4,705	31,076	2,769	2,422	1,172	49,331
1921–22		7,410	7,123	230,236	[5]	168,705	11,112	39,159		2,878	1,352	8,283
1922–23		11,916	3,010	212,573	46	56,764	15,635	118,816		7,553	1,770	38,635

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

[1] Includes peanut oil.
[2] Included in all other fixed or expressed.
[3] Included in Chinese nut oil.
[4] Includes hemp seed.
[5] Less than 500 pounds.

CATTLE.

TABLE 405.—*Cattle: Number and value on farms in the United States January 1, 1867–1924.*

Jan. 1—	Milk cows.			Other cattle.		
	Number.	Price per head Jan. 1.	Farm value Jan. 1.	Number.	Price per head Jan. 1.	Farm value Jan. 1.
		Dollars.	*Dollars.*		*Dollars.*	*Dollars.*
1867	8,349,000	28.74	239,947,000	11,731,000	15.79	185,254,000
1868	8,692,000	26.56	230,817,000	11,942,000	15.06	179,888,000
1869	9,248,000	29.15	269,610,000	12,185,000	18.73	228,183,000
1870, June 1	*8,935,000*	32.52	290,577,000	*14,885,000*	18.67	277,947,000
1871	10,023,000	33.89	339,701,000	16,212,000	20.78	336,860,000
1872	10,304,000	29.45	303,438,000	16,390,000	18.12	296,932,000
1873	10,576,000	26.72	282,559,000	16,414,000	18.06	296,448,000
1874	10,705,000	25.63	274,326,000	16,218,000	17.55	284,706,000
1875	10,907,000	25.74	280,701,000	16,313,000	16.91	275,872,000
1876	11,085,000	25.61	283,879,000	16,785,000	17.00	285,387,000
1877	11,261,000	25.47	286,778,000	17,956,000	15.99	287,150,000
1878	11,300,000	25.74	290,898,000	19,223,000	16.72	321,346,000
1879	11,826,000	21.71	256,721,000	21,408,000	15.38	329,254,000
1880, June 1	*12,443,000*	23.05	286,785,000	*23,482,000*	16.57	388,900,000
1881	12,369,000	23.95	296,277,000	20,939,000	17.33	362,862,000
1882	12,612,000	25.89	326,489,000	23,280,000	19.89	463,070,000
1883	13,126,000	30.21	396,575,000	28,046,000	21.81	611,549,000
1884	13,501,000	31.37	423,487,000	29,046,000	23.52	683,229,000
1885	13,905,000	29.70	412,903,000	29,867,000	23.25	694,383,000
1886	14,235,000	27.40	389,986,000	31,275,000	21.17	661,956,000
1887	14,522,000	26.08	378,790,000	33,512,000	19.79	663,138,000
1888	14,856,000	24.65	366,252,000	34,378,000	17.79	611,751,000
1889	15,299,000	23.94	366,226,000	35,032,000	17.05	597,237,000
1890, June 1	*16,512,000*	22.01	363,352,000	*54,852,000*	15.63	544,601,000
1891	16,020,000	21.62	346,398,000	36,876,000	14.76	544,128,000
1892	16,416,000	21.40	351,378,000	37,051,000	15.16	570,749,000
1893	16,424,000	21.75	357,300,000	35,054,000	15.24	547,882,000
1894	16,487,000	21.77	358,999,000	36,008,000	14.66	536,790,000
1895	16,505,000	21.97	362,602,000	34,364,000	14.06	482,999,000
1896	16,138,000	22.55	363,956,000	32,085,000	15.86	508,928,000
1897	15,942,000	23.16	369,240,000	30,508,000	16.65	507,929,000
1898	15,841,000	27.45	434,814,000	29,264,000	20.92	612,207,000
1899	15,990,000	29.66	474,234,000	27,994,000	22.79	637,931,000
1900, June 1	*17,136,000*	31.23	535,091,000	*50,584,000*	24.73	1,251,080,000
1901	16,834,000	30.00	505,093,000	45,500,000	19.93	906,644,000
1902	16,697,000	29.23	488,130,000	44,728,000	18.76	839,126,000
1903	17,105,000	30.21	516,712,000	44,659,000	18.45	824,055,000
1904	17,420,000	29.21	508,841,000	43,629,000	16.32	712,178,000
1905	17,572,000	27.44	482,272,000	43,669,000	15.15	661,571,000
1906	19,794,000	29.44	582,789,000	47,068,000	15.85	746,172,000
1907	20,968,000	31.00	645,497,000	51,566,000	17.10	881,557,000
1908	21,194,000	30.67	650,057,000	50,073,000	16.89	845,938,000
1909	21,720,000	32.36	702,945,000	49,379,000	17.49	863,754,000
1910, Apr. 15	*20,625,000*	35.29	727,802,000	*41,178,000*	19.07	785,281,000
1911	20,823,000	39.97	832,209,000	39,679,000	20.54	815,184,000
1912	20,699,000	39.39	815,414,000	37,260,000	21.20	790,064,000
1913	20,497,000	45.02	922,783,000	36,030,000	26.36	949,645,000
Av. 1909–1913	20,873,000	38.34	800,231,000	40,705,000	20.66	840,782,000
1914	20,737,000	53.94	1,118,487,000	35,855,000	31.13	1,116,333,000
1915	21,262,000	55.33	1,176,338,000	37,007,000	33.38	1,237,376,000
1916	22,108,000	53.92	1,191,955,000	39,812,000	33.53	1,334,928,000
1917	22,894,000	59.63	1,365,251,000	41,689,000	35.88	1,497,621,000
1918	23,310,000	70.54	1,644,231,000	44,112,000	40.88	1,803,482,100
1919	23,475,000	78.20	1,835,770,000	45,085,000	44.22	1,993,442,000
1920	23,722,000	85.86	2,036,780,000	43,398,000	43.21	1,875,043,000
Av. 1914–1920	22,501,000	65.83	1,481,255,000	41,003,000	37.83	1,551,175,000
1921	23,594,000	64.22	1,515,249,000	41,993,000	31.36	1,316,727,000
1922	24,082,000	50.98	1,227,703,000	41,977,000	23.79	998,772,000
1923	24,437,000	50.83	1,242,113,000	42,803,000	25.57	1,094,469,000
1924 [1]	24,675,000	52.16	1,287,044,000	42,126,000	24.99	1,052,599,000

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Preliminary.

TABLE 406.—*Cattle: Number and value on farms January 1, 1923 and 1924, by States.*

State.	Milk cows.						Other cattle.					
	Number Jan. 1.		Average price per head Jan. 1—		Farm value Jan. 1.		Number Jan. 1—		Average price per head Jan. 1.		Farm value Jan. 1.	
	1923	1924[1]	1923	1924	1923	1924[1]	1923	1924[1]	1923	1924	1923	1924[1]
	Thousands.	*Thousands.*	*Dollars.*	*Dollars.*	*1,000 dollars.*	*1,000 dollars.*	*Thousands.*	*Thousands.*	*Dollars.*	*Dollars.*	*1,000 dollars.*	*1,000 dollars.*
Maine	216	214	55.00	56.00	11,880	11,984	64	57	23.00	26.20	1,472	1,493
N. Hampshire	126	126	59.00	63.00	7,434	7,938	36	36	25.50	27.10	918	976
Vermont	385	385	56.00	57.00	21,560	21,945	82	83	18.80	18.80	1,542	1,560
Massachusetts	189	189	74.00	76.00	13,986	14,364	39	39	25.70	27.70	1,002	1,080
Rhode Island	27	27	84.00	88.00	2,268	2,376	7	7	30.20	29.80	211	209
Connecticut	141	141	78.00	83.00	10,998	11,703	38	38	29.50	30.40	1,121	1,155
New York	1,678	1,628	63.00	65.00	105,714	105,820	382	393	24.50	25.30	9,359	9,943
New Jersey	153	151	87.00	85.00	13,311	12,835	32	31	38.80	40.10	1,242	1,243
Pennsylvania	1,071	1,071	60.00	62.00	64,260	66,402	506	486	29.00	30.60	14,674	14,872
Delaware	40	41	55.00	56.00	2,200	2,296	10	10	29.00	27.70	290	277
Maryland	194	196	60.00	63.00	11,640	12,348	101	103	35.20	33.30	3,555	3,430
Virginia	430	426	42.50	42.00	18,275	17,892	469	460	27.30	26.40	12,804	12,144
West Virginia	222	220	48.00	43.00	10,656	9,460	365	365	33.90	30.60	12,374	11,169
North Carolina	365	365	39.00	43.00	14,235	15,695	274	266	17.10	17.30	4,685	4,602
South Carolina	228	228	35.00	38.00	7,980	8,664	189	189	12.50	14.20	2,362	2,684
Georgia	509	519	28.00	30.00	14,252	15,570	700	693	11.00	10.40	7,700	7,207
Florida	97	97	56.00	55.00	5,432	5,335	774	774	16.00	15.30	12,384	11,842
Ohio	1,069	1,090	56.00	56.00	59,864	61,040	857	840	31.70	31.10	27,167	26,124
Indiana	742	757	53.00	55.00	39,326	41,635	794	779	32.40	31.70	25,726	24,694
Illinois	1,148	1,159	56.00	60.00	64,288	69,540	1,561	1,545	34.00	33.00	53,074	50,985
Michigan	977	987	55.00	60.00	53,735	59,220	611	611	24.50	24.90	14,970	15,214
Wisconsin	2,195	2,217	57.00	58.00	125,115	128,586	876	858	22.40	23.70	19,622	20,335
Minnesota	1,641	1,674	47.00	52.00	77,127	87,048	1,289	1,276	20.40	21.10	26,296	26,924
Iowa	1,160	1,206	58.00	60.00	67,280	72,360	3,479	3,479	35.20	34.30	122,461	119,330
Missouri	777	793	45.00	46.00	34,965	36,478	2,003	2,063	28.70	29.20	57,486	60,240
North Dakota	503	533	44.00	47.00	22,132	25,051	814	806	21.40	19.80	17,420	15,959
South Dakota	450	455	51.00	50.00	22,950	22,750	1,521	1,551	29.40	27.50	44,717	42,652
Nebraska	570	587	57.00	56.00	32,490	32,872	2,700	2,727	31.80	30.30	85,860	82,628
Kansas	716	723	46.00	50.00	32,936	36,150	2,487	2,537	27.20	25.90	67,646	65,708
Kentucky	530	525	40.00	38.00	21,200	19,950	501	466	22.80	20.20	11,423	9,413
Tennessee	495	480	34.00	32.00	16,830	15,360	609	579	15.70	14.80	9,561	8,569
Alabama	516	516	27.00	27.00	13,932	13,932	515	469	9.60	9.40	4,944	4,409
Mississippi	541	536	27.00	27.00	14,607	14,472	677	636	9.50	9.00	6,432	5,724
Louisiana	216	220	38.00	37.00	8,208	8,140	585	573	14.70	15.00	8,600	8,595
Texas	1,052	1,063	36.00	33.00	37,872	35,079	5,597	5,597	18.60	18.60	104,104	104,104
Oklahoma	566	549	34.00	31.00	19,244	17,019	1,364	1,160	16.80	15.00	22,915	17,400
Arkansas	516	506	24.00	21.00	12,384	10,626	494	419	8.80	7.60	4,347	3,184
Montana	173	194	55.00	53.00	9,515	10,282	1,273	1,222	30.90	27.60	39,336	33,727
Wyoming	46	48	67.00	57.00	3,082	2,736	835	793	30.70	29.80	25,634	23,631
Colorado	253	261	53.00	50.00	13,409	13,050	1,361	1,279	25.40	25.10	34,569	32,108
New Mexico	47	47	50.00	50.00	2,350	2,350	1,220	1,160	21.90	22.50	26,718	26,100
Arizona	46	46	93.00	85.00	4,278	3,910	1,092	1,092	31.40	28.90	34,289	31,559
Utah	90	92	68.00	72.00	6,670	6,624	455	446	27.40	25.90	12,467	11,551
Nevada	21	24	74.00	83.00	1,554	1,992	356	345	32.70	32.50	11,641	11,212
Idaho	162	172	63.00	62.00	10,206	10,664	526	537	26.80	24.80	14,097	13,318
Washington	283	289	61.00	71.00	17,263	20,519	253	253	26.40	28.20	6,679	7,135
Oregon	220	238	60.00	61.00	13,200	14,518	595	577	28.20	28.00	16,779	16,156
California	645	664	76.00	76.00	49,020	50,464	1,435	1,421	34.70	33.80	49,794	48,030
United States	24,437	24,675	50.83	52.16	1,242,113	1,287,044	42,803	42,126	25.57	24.99	1,094,469	1,052,599

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 407.—*Cattle on farms: Cumulative percentage changes, 1920–1923.*[1]

Item.	To Feb. 1.	To Mar. 1.	To Apr. 1	To May 1.	To June 1.	To July 1.	To Aug. 1.	To Sept. 1.	To Oct. 1.	To Nov. 1	To Dec. 1.	To Jan. 1 of succeeding year.
Increases:	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Births [2]—												
1920	2.9	6.4	12.0	18.7	25.5	30.1	32.8	35.0	37.4	39.9	42.2	44.6
1921	2.8	6.2	11.4	17.7	23.3	27.0	29.3	31.2	33.6	36.1	38.8	41.8
1922	3.0	7.0	12.5	18.6	23.6	26.9	29.5	31.7	34.1	36.7	39.0	41.9
1923	3.1	6.7	12.3	18.7	23.8	27.4	30.2	32.4	35.0	37.7	40.3	------
Brought on farms [2]—												
1920	2.6	4.9	7.3	9.4	11.2	12.9	14.4	16.7	20.6	26.4	29.5	31.4
1921	1.7	3.6	5.9	8.0	10.0	11.3	12.4	14.4	17.4	22.4	27.8	30.8
1922	1.9	4.1	6.1	9.4	11.6	13.5	15.2	17.3	21.0	27.2	29.8	32.8
1923	2.0	4.4	6.4	8.4	10.9	12.7	14.1	16.1	17.9	21.9	26.2	------
Total increase [2]—												
1920	5.5	11.3	19.3	28.1	36.7	43.0	47.2	51.7	58.0	66.3	71.7	76.0
1921	4.5	9.8	17.3	25.7	33.3	38.3	41.7	45.6	51.0	58.5	66.6	72.6
1922	4.9	11.1	18.6	28.0	35.2	40.4	44.7	49.0	55.1	63.9	68.8	71.7
1923	5.1	11.1	18.7	27.1	34.7	40.1	44.3	48.5	52.9	59.6	66.5	------
Decreases:												
Moved off—												
1920	4.6	9.3	14.9	20.4	25.5	30.9	35.0	40.4	47.8	55.1	61.0	65.8
1921	3.5	7.3	12.4	17.0	21.8	26.3	30.2	35.0	40.2	47.5	55.0	59.4
1922	3.6	7.3	12.3	17.4	22.7	27.5	31.9	37.2	43.5	51.8	58.3	63.1
1923	4.0	8.0	12.6	17.8	22.7	27.2	31.5	36.3	40.0	47.2	54.4	------
Slaughtered on farms—												
1920	0.6	1.0	1.4	1.8	2.1	2.6	2.9	3.3	3.9	4.5	5.3	6.3
1921	0.6	1.2	1.6	1.9	2.2	2.5	2.9	3.2	3.6	4.1	4.9	5.9
1922	0.7	1.2	1.7	1.9	2.2	2.5	2.8	3.2	3.6	4.2	4.7	5.6
1923	0.8	1.3	1.8	2.1	2.5	2.8	3.1	3.5	3.9	4.6	5.9	------
Died—												
1920	0.7	1.5	2.6	3.8	4.6	5.0	5.2	5.7	6.0	6.4	6.8	7.2
1921	0.5	1.1	1.6	2.2	2.6	3.0	3.3	3.6	3.9	4.3	4.7	5.2
1922	0.5	1.1	1.9	2.7	3.2	3.6	4.0	4.4	4.8	5.1	5.5	5.9
1923	0.5	1.3	2.4	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.2	------
Total decreases—												
1920	5.9	11.8	18.9	26.0	32.2	38.5	43.1	49.4	57.7	66.0	73.1	79.3
1921	4.6	9.6	15.6	21.1	26.6	31.8	36.4	41.8	47.7	55.9	64.6	70.5
1922	4.8	9.6	15.9	22.0	28.1	33.6	38.7	44.8	51.9	61.1	68.5	74.6
1923	5.3	10.6	16.8	23.1	28.8	34.0	39.0	44.6	49.1	57.4	65.6	------
Net change:												
1920	−0.4	−0.5	+0.4	+2.1	+4.5	+4.5	+4.1	+2.3	+0.3	+0.3	−1.4	−3.3
1921	−0.1	+0.2	+1.7	+4.6	+6.7	+6.5	+5.3	+3.8	+3.3	+2.6	+2.0	+2.1
1922	+0.1	+1.5	+2.7	+6.0	+7.1	+6.8	+6.0	+4.2	+3.2	+2.8	+0.3	+0.1
1923	−0.2	+0.5	+1.9	+4.0	+5.9	+6.1	+5.3	+3.9	+3.8	+2.2	+0.9	------
On hand compared with Jan. 1:												
1920	99.6	99.5	100.4	102.1	104.5	104.5	104.1	102.3	100.3	100.3	98.6	96.7
1921	99.9	100.2	101.7	104.6	106.7	106.5	105.3	103.8	103.3	102.6	102.0	102.1
1922	100.1	101.5	102.7	106.0	107.1	106.8	106.0	104.2	103.2	102.8	100.3	100.1
1923	99.8	100.5	101.9	104.0	105.9	106.1	105.3	103.9	103.8	102.2	100.9	------

Division of Crop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.

[1] Number on hand, Jan. 1, each year = 100 per cent

[2] Corrective factor 0.96 applied to births and brought on farms figures.

TABLE 408.—*Cattle: Yearly losses per 1,000 from disease and exposure, 1890–1924.*

Year ending Apr. 30.	Loss per 1,000.		Year ending Apr. 30.	Loss per 1,000.		Year ending Apr. 30.	Loss per 1,000.		Year ending Apr. 30.	Loss per 1,000.	
	From disease.	From exposure.		From disease.	From exposure.		From disease.	From exposure.		From disease.	From exposure.
1889–90	13.0	23.0	1898–99	20.3	22.1	1907–08	18.9	12.0	1916–17	19.4	14.6
1890–91	14.3	15.3	1899–1900	19.9	13.7	1908–09	19.2	14.8	1917–18	18.2	13.3
1891–92	12.8	13.0	1900–01	22.3	11.5	1909–10	21.0	17.6	1918–19	17.4	15.9
1892–93	16.6	17.3	1901–02	21.3	18.2	1910–11	19.7	13.3	1919–20	19.5	18.5
1893–94	19.0	12.5	1902–03	23.9	23.7	1911–12	21.6	21.5	1920–21	19.0	9.2
1894–95	21.4	20.7	1903–04	23.6	20.2	1912–13	20.5	14.1	1921–22	17.8	13.1
1895–96	19.3	11.3	1904–05	20.6	23.3	1913–14	19.8	10.9	1922–23	16.7	13.1
1896–97	19.4	16.0	1905–06	20.1	14.9	1914–15					
1897–98	19.7	13.0	1906–07	19.9	13.7	1915–16	19.5	10.7			

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending April 30.

TABLE 409.—*Cattle and calves: Receipts and shipments at principal markets and at all markets, 1900–1923.*

RECEIPTS.

Calendar year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets reporting.	Total all markets reporting.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	2,865	240	698	(1)	2,083	828	390	221	300	7,625	(2)	(2)
1901	3,213	227	892	(1)	2,127	818	439	190	309	8,215	(2)	(2)
1902	3,193	324	1,113	132	2,279	1,011	517	306	405	9,280	(2)	(2)
1903	3,704	286	1,140	447	2,137	1,071	625	303	379	10,002	(2)	(2)
1904	3,527	265	1,074	643	2,163	944	587	389	331	9,923	(2)	(2)
1905	3,791	294	1,124	812	2,423	1,026	547	489	403	10,909	(2)	(2)
1906	3,742	329	1,121	838	2,556	1,079	606	487	385	11,143	(2)	(2)
1907	3,727	307	1,133	1,022	2,670	1,159	616	520	410	11,564	(2)	(2)
1908	3,461	420	1,145	1,069	2,458	1,037	584	463	385	11,022	(2)	(2)
1909	3,340	426	1,241	1,197	2,660	1,125	592	497	426	11,504	(2)	(2)
1910	3,553	399	1,208	1,071	2,507	1,224	665	604	439	11,670	(2)	(2)
1911	3,453	298	1,072	884	2,370	1,174	513	539	487	10,790	(2)	(2)
1912	3,158	416	1,200	1,039	2,147	1,017	494	524	431	10,426	(2)	(2)
1913	2,888	499	1,100	1,185	2,319	962	450	532	394	10,329	(2)	(2)
1914	2,601	443	1,041	1,176	1,957	939	356	585	368	9,466	(2)	(2)
1915	2,685	424	992	944	1,963	1,218	441	856	534	10,057	4,496	14,553
1916	3,250	601	1,200	1,081	2,331	1,434	480	941	602	11,920	5,756	17,676
1917	3,820	653	1,405	1,960	2,902	1,720	670	1,197	707	15,034	8,032	23,066
1918	4,448	728	1,509	1,665	3,320	1,993	870	1,430	818	16,781	8,514	25,295
1919	4,253	824	1,473	1,267	3,085	1,975	750	1,491	814	15,932	8,691	24,623
1920	3,849	617	1,254	1,134	2,500	1,603	643	1,373	752	13,725	8,472	22,197
1921	3,540	482	1,077	984	2,469	1,435	558	985	620	12,150	7,637	19,787
1922	3,934	656	1,400	1,084	2,983	1,744	655	1,387	747	14,590	8,627	23,217
1923	3,918	620	1,399	1,258	3,208	1,793	709	1,340	759	15,013	8,198	23,211

SHIPMENTS.

1900	949	(2)	166	(2)	(2)	274	92	154	187	1,822	(2)	(2)
1901	1,051	(2)	224	(2)	(2)	239	82	126	189	1,911	(2)	(2)
1902	937	(2)	316	(2)	(2)	365	112	230	283	2,243	(2)	(2)
1903	1,296	(2)	318	(2)	(2)	301	174	212	279	2,580	(2)	(2)
1904	1,350	(2)	308	(2)	(2)	261	140	275	230	2,564	(2)	(2)
1905	1,437	(2)	359	(2)	(2)	315	133	352	237	2,833	(2)	(2)
1906	1,376	(2)	365	(2)	(2)	303	143	353	210	2,750	(2)	(2)
1907	1,477	(2)	371	(2)	(2)	362	150	379	227	2,966	(2)	(2)
1908	1,387	(2)	347	(2)	(2)	330	178	302	213	2,757	(2)	(2)
1909	1,297	(2)	374	(2)	(2)	374	185	322	232	2,784	(2)	(2)
1910	1,347	(2)	370	(2)	(2)	425	161	369	213	2,885	(2)	(2)
1911	1,245	(2)	309	(2)	(2)	446	157	318	249	2,724	(2)	(2)
1912	994	(2)	315	(2)	(2)	418	158	293	240	2,418	(2)	(2)
1913	1,001	(2)	344	(2)	(2)	432	157	322	228	2,484	(2)	(2)
1914	824	(2)	306	(2)	(2)	394	124	328	197	2,173	(2)	(2)
1915	392	359	269	506	1,032	536	175	523	289	4,081	1,771	5,852
1916	726	512	313	511	1,028	591	149	556	369	4,755	2,198	6,953
1917	867	521	317	838	1,202	723	211	723	410	5,812	3,661	9,473
1918	1,025	544	370	562	1,422	855	299	896	432	6,405	3,906	10,311
1919	1,221	642	454	475	1,467	840	220	935	459	6,713	4,044	10,757
1920	1,247	471	510	544	1,209	689	234	634	410	5,948	3,883	9,831
1921	1,163	360	611	412	1,244	635	188	391	346	5,350	3,250	8,600
1922	1,137	532	871	467	1,534	829	251	609	447	6,677	3,988	10,665
1923	1,105	490	855	463	1,599	794	265	496	417	6,484	3,576	10,060

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from the Fourteenth Annual Report of Bureau of Animal Industry; 1907 to 1914, from Merchants Exchange Annual Report); subsequent figures from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Not in operation.
[2] Figures not available prior to 1915.

TABLE 410.—*Cattle and calves: Receipts at all public stockyards, 1915–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1915 [1]	1,029	768	1,017	987	1,111	1,113	1,039	1,246	1,531	1,818	1,724	1,170	14,553
1916 [1]	1,202	1,055	1,201	1,151	1,385	1,319	1,154	1,584	1,779	2,409	1,977	1,460	17,676
1917	1,696	1,302	1,330	1,539	1,961	1,759	1,729	1,814	2,357	3,054	2,626	1,899	23,066
1918	1,727	1,498	1,713	2,046	1,863	1,815	2,128	2,024	2,826	2,865	2,648	2,142	25,295
1919	2,119	1,453	1,517	1,767	1,836	1,588	2,016	2,039	2,396	3,008	2,702	2,182	24,623
1920	1,881	1,480	1,663	1,557	1,778	1,879	1,671	1,902	2,294	2,209	2,428	1,395	22,197
1921	1,644	1,190	1,566	1,494	1,542	1,580	1,343	1,867	1,906	2,310	1,928	1,417	19,787
1922	1,628	1,417	1,622	1,470	1,878	1,769	1,709	2,149	2,397	2,936	2,427	1,825	23,217
1923	1,877	1,427	1,502	1,670	1,900	1,629	1,903	2,214	2,295	2,802	2,182	1,810	23,211

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of the markets.

TABLE 411.—*Cattle and calves: Receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1900–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	496	420	460	445	532	436	491	646	688	786	615	461
1901	531	451	433	510	511	489	722	695	764	836	581	525
1902	568	471	477	472	408	495	628	737	994	941	721	686
1903	607	520	554	592	522	540	656	755	962	963	761	618
1904	631	568	594	545	524	619	352	668	827	970	826	585
1905	619	496	565	548	619	597	613	815	904	1,068	824	695
1906	715	576	555	574	660	591	687	733	833	1,057	827	691
1907	786	585	571	701	605	631	748	788	1,015	1,031	634	596
1908	695	555	592	496	496	571	605	796	950	913	775	657
1909	628	491	593	489	558	558	610	810	879	982	914	753
1910	641	515	590	498	553	630	662	915	995	1,040	834	617
1911	700	516	555	498	612	620	680	764	766	1,044	757	555
1912	660	486	502	515	484	462	516	667	868	1,010	674	676
1913	606	486	481	523	452	525	568	688	923	824	606	588
Av. 1909–1913	647	499	544	505	532	559	607	769	886	980	757	638
1914	526	446	482	446	405	473	457	566	785	813	558	581
1915	518	377	523	465	461	474	462	611	730	834	798	605
1916	606	534	558	452	558	530	535	807	861	1,146	915	716
1917	807	567	533	600	708	701	773	808	1,029	1,309	1,148	864
1918	763	709	779	881	688	705	967	911	1,347	1,320	1,167	1,032
1919	998	682	646	706	668	641	881	926	1,131	1,362	1,169	976
1920	847	642	698	532	642	696	669	868	1,032	932	1,029	618
Av. 1914–1920	724	565	603	583	590	603	678	785	988	1,102	969	770
1921	744	520	679	608	625	675	542	863	866	1,019	795	585
1922	717	617	682	577	748	750	719	981	1,096	1,338	1,045	789
1923	833	641	652	720	793	692	856	1,082	1,116	1,263	892	780

Division of Statistical and Historical Research. Figures prior to 1915 compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 412.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923.*

RECEIPTS.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Albany, N. Y	-------	42	107	46	39	36	23	21	14
Amarillo, Tex	116	133	352	272	185	147	113	140	115
Atlanta, Ga	-------	-------	27	22	18	21	29	30	59
Augusta, Ga	-------	-------	14	14	14	13	12	14	12
Baltimore, Md	147	178	228	227	249	287	279	241	228
Billings, Mont	2	5	8	8	16	2	(1)	-------	-------
Birmingham, Ala	-------	19	18	22	24	24	20	8	2
Boston, Mass	43	90	91	104	98	75	61	77	67
Buffalo, N. Y	362	477	531	668	749	677	609	637	589
Chattanooga, Tenn	-------	24	25	13	12	13	15	19	17
Cheyenne, Wyo	-------	-------	40	47	47	23	9	9	23
Chicago, Ill	2,685	3,250	3,820	4,448	4,253	3,849	3,540	3,934	3,918
Cincinnati, Ohio	281	352	453	455	460	441	454	446	426
Cleveland, Ohio	122	181	296	302	305	281	248	281	278
Columbia, S. C	-------	6	4	5	6	6	5	7	10
Columbus, Ohio	1	2	1	3	3	2	3	4	3
Dallas, Tex	-------	9	8	12	9	8	8	8	7
Dayton, Ohio	18	21	26	30	31	33	31	33	34
Denver, Colo	424	601	653	728	824	617	482	656	620
Detroit, Mich	122	200	263	252	227	234	201	253	268
Dublin, Ga	-------	-------	1	2	2	4	3	3	-------
East St. Louis, Ill	992	1,200	1,408	1,509	1,473	1,254	1,077	1,400	1,309
El Paso, Tex	225	130	190	212	203	152	170	149	103
Emeryville, Calif	-------	-------	38	32	36	38	35	35	-------
Erie, Pa	-------	-------	-------	57	38	28	-------	-------	-------
Evansville, Ind	-------	23	35	45	38	45	35	44	39
Fort Wayne, Ind	-------	-------	-------	-------	-------	-------	-------	-------	8
Fort Worth, Tex	944	1,081	1,960	1,665	1,267	1,134	984	1,084	1,258
Fostoria, Ohio	9	12	12	10	11	14	11	15	12
Indianapolis, Ind	352	405	501	504	515	597	483	509	528
Jacksonville, Fla	-------	3	9	40	16	7	6	5	7
Jersey City, N. J	491	746	755	650	745	833	844	905	673
Kansas City, Mo	1,963	2,331	2,902	3,320	3,085	2,500	2,469	2,983	3,208
Knoxville, Tenn	14	17	20	19	21	21	18	24	22
Lafayette, Ind	10	10	14	14	17	19	18	13	13
Lancaster, Pa	115	144	258	304	239	287	205	234	229
Laredo, Tex	-------	-------	-------	-------	-------	-------	-------	-------	15
Logansport, Ind	(1)	(1)	1	1	1	1	1	1	(1)
Los Angeles, Calif	-------	-------	-------	-------	-------	-------	-------	-------	183
Louisville, Ky	142	202	221	218	246	245	246	283	255
Marion, Ohio	-------	-------	-------	2	13	32	7	16	9
Memphis, Tenn	-------	2	5	4	6	19	8	13	22
Milwaukee, Wis	224	244	295	370	398	444	439	504	512
Mobile, Ala	17	8	6	-------	-------	-------	-------	-------	-------
Montgomery, Ala	-------	-------	7	34	52	68	50	59	75
Moultrie, Ga	-------	-------	-------	-------	-------	-------	4	5	5
Nashville, Tenn	-------	39	118	88	83	99	96	109	96
Nebraska City, Nebr	-------	-------	-------	2	2	2	1	1	-------
Newark, N. J	-------	-------	-------	-------	-------	-------	-------	-------	41
New Brighton, Minn	30	38	50	81	121	73	36	98	-------
New Orleans, La	-------	154	166	174	191	213	188	193	207
New York, N. Y	352	322	276	385	402	316	301	258	216
No. Salt Lake, Utah	-------	12	42	54	67	49	57	88	74
Ogden, Utah	-------	-------	64	117	104	64	76	91	122
Oklahoma, Okla	227	325	620	690	593	400	315	382	414
Omaha, Nebr	1,218	1,434	1,720	1,993	1,975	1,603	1,435	1,744	1,793
Orangeburg, S. C	-------	-------	-------	1	(1)	-------	-------	-------	-------
Pasco, Wash	-------	-------	-------	3	6	8	3	6	2
Peoria, Ill	13	20	25	32	27	36	43	40	38
Philadelphia, Pa	136	180	192	194	201	226	227	264	179
Pittsburgh, Pa	338	169	560	523	616	733	745	867	821
Portland, Oreg	75	83	105	120	125	141	120	140	168
Pueblo, Colo	130	130	186	205	217	178	79	199	151
Richmond, Va	23	29	26	22	29	30	28	32	32
Roanoke, Va	-------	-------	-------	-------	-------	-------	-------	-------	2

[1] Less than 500.

TABLE 412.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

RECEIPTS—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands*	*Thousands*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
St. Joseph, Mo	441	480	670	870	750	643	558	655	709
St. Louis, Mo	32	43	35	26					
St. Paul, Minn	856	941	1,197	1,430	1,491	1,373	985	1,387	1,349
San Antonio, Tex	139	208	193	176	250	233	151	198	163
Seattle, Wash		25	39	56	66	58	47	46	55
Sioux City, Iowa	534	602	707	818	814	752	620	747	759
Sioux Falls, S. Dak			7	7	8	14	17	33	30
Spokane, Wash	1	17	26	51	74	67	41	49	45
Springfield, Ohio									7
Tacoma, Wash		16	20	27	29	22	25	28	
Toledo, Ohio	34	26	32	44	57	64	25	25	25
Washington, D. C		15	16	18	23	27	28	29	32
Wichita, Kans	153	220	371	394	311	242	285	407	417
Total	14,553	17,676	23,066	25,290	24,623	22,197	19,787	23,218	23,211

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

LOCAL SLAUGHTER.

Albany, N. Y			8	6	4	3	2	1	1
Amarillo, Tex					1	1	1	(1)	(1)
Atlanta, Ga			15	11	11	15	18	19	33
Augusta, Ga			10	8	9	8	8	11	9
Baltimore, Md	92	112	122	126	145	170	156	157	158
Billings, Mont			2	1		(1)	(1)		
Birmingham, Ala		15	15	21	22	23	19	8	2
Buffalo, N. Y		197	212	205	202	199	167	192	189
Chattanooga, Tenn				9	10	10	11	13	13
Chicago, Ill	2,293	2,524	2,953	3,422	3,032	2,603	2,377	2,797	2,813
Cincinnati, Ohio	187	233	300	303	305	283	302	252	230
Cleveland, Ohio	111	164	223	223	244	228	228	253	256
Columbia, S. C		5		4	6	6	5	8	10
Columbus, Ohio	1	1	1	(1)	(1)	1	1	2	2
Dallas, Tex		9	8	12	9	8	8	8	7
Dayton, Ohio	17	18	23	26	25	26	27	29	30
Denver, Colo	66	89	131	185	174	153	122	124	131
Detroit, Mich		165	174	192	189	202	168	206	239
East St. Louis, Ill	723	888	1,087	1,140	1,019	744	466	530	544
El Paso, Tex			10	19	24	21	24	20	24
Emeryville, Calif			38	32	36	38	35	35	
Erie, Pa				13	13	9			
Evansville, Ind		13	15	15	16	24	21	23	22
Fort Wayne, Ind									4
Fort Worth, Tex	362	474	991	954	715	558	576	620	795
Fostoria, Ohio			2	3	2	3	1	1	1
Indianapolis, Ind	175	208	270	268	245	257	230	238	247
Jacksonville, Fla			6	39	10	6	3	3	4
Jersey City, N. J	491	746	755	650	745	833	843	903	673
Kansas City, Mo	935	1,301	1,677	1,915	1,617	1,264	1,200	1,407	1,559
Knoxville, Tenn	11	13	10	9	9	11	10	13	12
Lafayette, Ind		6	6	5	7	8	9	8	8
Lancaster, Pa				28	45	55	37	48	47
Laredo, Tex									2
Logansport, Ind	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Los Angeles, Calif									173
Louisville, Ky	54	70	76	74	87	87	81	89	98
Marion, Ohio				(1)	1	1	1	2	2
Memphis, Tenn					1	(1)	5	8	11
Milwaukee, Wis	179	214	263	321	334	390	402	458	471
Mobile, Ala	13	7	5						
Montgomery, Ala					3	4	4	4	7
Moultrie, Ga							1	2	2
Nashville, Tenn		7	27	32	41	46	42	47	51
Nebraska City, Nebr					(1)				
Newark, N. J									37
New Orleans, La		141	155	160	162	174	160	159	168
New York, N. Y	352	322	276	385	400	315	300	257	216
North Salt Lake, Utah		1	11	23	19	14	25	14	18
Ogden, Utah			12	12	11	16	13	12	16

[1] Less than 500.

TABLE 412.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

LOCAL SLAUGHTER—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Oklahoma, Okla.	130	221	415	528	368	228	203	219	279
Omaha, Nebr.	683	843	990	1,138	1,136	914	797	916	997
Pasco, Wash.				(1)	(1)	(1)			
Peoria, Ill.	10	14	14	26	18	18	21	20	17
Philadelphia, Pa.			183	186	196	221	225	261	172
Pittsburgh, Pa.	51	92	168	163	151	171	175	161	176
Portland, Oreg.	40	42	56	65	62	70	59	67	98
Pueblo, Colo.				(1)			1	(1)	1
Richmond, Va.	11	13	14	13	17	19	20	25	24
Roanoke, Va.									(1)
St. Joseph, Mo.	267	331	459	569	531	410	370	403	444
St. Louis, Mo.	20	25	25	22					
St. Paul, Minn.	327	381	487	616	530	710	564	783	851
San Antonio, Tex.			55	20	14	37	36	54	53
Seattle, Wash.		25	39	56	64	56	46	45	55
Sioux City, Iowa	244	233	296	385	363	342	273	301	341
Sioux Falls, S. Dak.			(1)	1	1	6	7	13	11
Spokane, Wash.	(1)	3	14	36	36	35	23	26	28
Springfield, Ohio									2
Tacoma, Wash.		15	20	26	24	22	25	27	
Toledo, Ohio		12	11	13	13	18	14	12	13
Washington, D. C.		15	12	15	20	25	27	28	31
Wichita, Kans.	67	86	122	145	133	84	83	93	104
Total	7,912	10,294	13,275	14,874	13,633	12,194	11,078	12,435	13,030

Division of Statistical and Historical Research. Compiled from reports of stock sold and driven out for local slaughter, made by stockyards to the Livestock, Meats and Wool Division.

STOCKER AND FEEDER SHIPMENTS.

Market.	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Albany, N. Y.		1	1	1	1	(1)	(1)	(1)
Amarillo, Texas	110	262	197	122	91	84	103	74
Atlanta, Ga.			2	4	1	3	2	6
Augusta, Ga.		1	3	3	2	3	2	2
Baltimore, Md.	7	8	11	5	5	3	3	3
Billings, Mont.		5	4	9	1			
Birmingham, Ala.	1	2	(1)	1	(1)	(1)		(1)
Buffalo, N. Y.	26	25	31	39	14	8	7	4
Chattanooga, Tenn.			2	2	2	4	4	3
Chicago, Ill.	256	358	401	509	417	332	343	295
Cincinnati, Ohio	26	22	30	28	28	22	26	23
Cleveland, Ohio		3	4	6	3	6	5	4
Columbia, S. C.		(1)	(1)	(1)				
Columbus, Ohio	(1)		(1)	(1)	(1)			
Dayton, Ohio	2	(1)	1	(1)	(1)			
Denver, Colo.	386	397	402	483	407	274	413	361
Detroit, Mich.	9	8	6	17	16	14	14	11
Dublin, Ga.		1	(1)	(1)	(1)	1	1	
East St. Louis, Ill.	161	221	225	234	168	185	275	281
El Paso, Tex.		159	178	151	115	102	84	40
Emeryville, Calif.			(1)	(1)				
Evansville, Ind.		1	3	1	1	1	3	3
Fort Wayne, Ind.								(1)
Fort Worth, Tex.	312	437	393	327	278	172	225	169
Fostoria, Ohio	6	4	3	5	5	3	7	5
Indianapolis, Ind.	45	46	56	50	48	41	44	44
Jacksonville, Fla.	1	1	1	(1)	(1)		1	(1)
Kansas City, Mo.	893	948	1,053	1,086	778	788	1,151	1,162
Knoxville, Tenn.	1	6	8	8	4	3	6	4
Lafayette, Ind.	(1)	1	1	2	1	1	1	1
Lancaster, Pa.			93	95	87	1		53
Laredo, Tex.								10
Logansport, Ind.	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Los Angeles, Calif.								9
Louisville, Ky.			24	36	31	37	42	32
Marion, Ohio			1	1	(1)	(1)	(1)	(1)
Memphis, Tenn.	(1)			(1)	2	1	2	7
Milwaukee, Wis.	5	9	11	16	15	12	13	16
Mobile, Ala.		(1)						
Montgomery, Ala.		(1)	6	9	28	10	9	7

[1] Less than 500.

TABLE 412.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

STOCKER AND FEEDER SHIPMENTS—Continued.

Market.	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Moultrie, Ga.						(1)	(1)	(1)
Nashville, Tenn.	6	3	3	11	14	12	15	9
Nebraska City, Nebr.			(1)	1	(1)	(1)		
Newark, N. J.								3
New Brighton, Minn.	(1)	1	3	1	1	(1)	3	
New Orleans, La.	8	5	6	18	17	16	21	21
North Salt Lake, Utah	2	25	23	25	16	12	15	11
Ogden, Utah		5	27	48	28	25	23	45
Oklahoma, Okla.	88	172	155	136	106	80	80	70
Omaha, Nebr.	533	561	526	656	451	443	621	586
Pasco, Wash.			(1)		(1)			
Peoria, Ill.	2	2	2	(1)	1	4	7	4
Portland, Oreg.	12	18	18	21	26	9	12	10
Pueblo, Colo.			79	7	5	4	16	45
Richmond, Va.	1	1	1	2	2	2	2	3
Roanoke, Va.								1
St. Joseph, Mo.	95	127	116	124	103	103	176	170
St. Paul, Minn.	358	357	337	416	316	270	439	348
San Antonio, Tex.	59	43	53	138	96	26	83	66
Seattle, Wash.		(1)	(1)	(1)		(1)	(1)	(1)
Sioux City, Iowa	328	348	303	329	238	240	335	308
Sioux Falls, S. Dak.		6	4	1	1	4	11	14
Spokane, Wash.		9	12	28	23	7	12	8
Tacoma, Wash.			1	3	(1)	(1)	(1)	
Toledo, Ohio.	1	2	5	4	5	4	4	4
Washington, D. C.			(1)	1	(1)	(1)		
Wichita, Kans.	107	192	188	116	104	132	203	198
Total	3,847	4,803	5,013	5,286	4,102	3,504	4,864	4,553

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

[1] Less than 500.

TABLE 413.—*Cattle and calves: Stocker and feeder shipments from public stockyards, 1916–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1916 [1]	221	197	250	262	289	264	171	330	464	682	461	256	3,847
1917	260	213	249	306	401	353	262	330	588	768	729	344	4,803
1918	222	214	319	385	491	393	274	418	604	704	623	366	5,013
1919	364	264	277	391	442	272	236	397	611	839	723	470	5,286
1920	349	240	241	244	323	272	218	314	488	580	553	280	4,102
1921	205	166	236	238	214	209	122	355	395	622	497	245	3,504
1922	233	243	282	235	365	318	223	469	630	864	710	357	4,929
1923	281	210	199	233	300	234	223	480	631	785	624	353	4,553

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1916 not obtainable from many markets.

TABLE 414.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1923.*

Stockyards.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Buffalo, N. Y.:													
Receipts	49	40	49	57	49	50	50	45	40	55	54	51	589
Local slaughter	13	11	15	19	14	15	17	16	15	21	17	16	180
Stocker and feeder shipments	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2	1	1	4
Chicago, Ill.:													
Receipts	340	278	293	335	356	286	315	312	319	411	331	335	3,918
Local slaughter	242	198	217	256	278	217	228	224	219	281	227	226	2,813
Stocker and feeder shipments	16	14	16	17	14	14	13	24	40	54	41	32	295

[1] Less than 500

TABLE 414.—*Cattle and calves: Receipts, local slaughter, stocker and feeder shipments at public stockyards, 1923*—Continued.

Stockyards	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Cincinnati, Ohio:													
Receipts	29	26	32	31	36	34	41	39	38	49	37	32	426
Local slaughter	18	17	17	19	20	17	21	21	20	24	18	18	230
Stocker and feeder shipments	1	1	1	1	1	1	2	2	3	6	3	1	23
Cleveland, Ohio:													
Receipts	20	18	22	25	25	23	24	25	23	23	26	24	278
Local slaughter	19	17	21	24	24	21	21	23	20	20	24	22	256
Stocker and feeder shipments	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1	1	1	1	4
Denver, Colo.:													
Receipts	60	26	28	29	59	33	25	30	48	106	111	65	620
Local slaughter	11	9	11	12	12	10	11	12	10	13	11	9	131
Stocker and feeder shipments	29	14	11	10	46	25	12	14	29	57	76	38	361
East St. Louis, Ill.:													
Receipts	90	72	73	75	99	94	139	162	165	197	125	99	1,399
Local slaughter	38	26	27	37	51	37	57	51	48	80	46	46	544
Stocker and feeder shipments	14	13	12	11	11	16	17	38	46	50	36	17	128
Fort Worth, Tex.:													
Receipts	79	43	44	62	120	114	141	164	122	162	121	86	1,288
Local slaughter	52	32	28	30	51	59	82	109	87	110	88	67	795
Stocker and feeder shipments	9	6	9	20	24	10	8	9	15	29	20	10	169
Indianapolis, Ind.:													
Receipts	44	35	39	39	48	44	45	47	50	54	39	44	528
Local slaughter	22	19	20	21	24	20	21	20	20	21	18	21	247
Stocker and feeder shipments	2	2	2	2	2	3	5	4	7	8	4	3	44
Jersey City, N. J.:													
Receipts	56	50	57	73	52	50	50	64	55	69	47	50	673
Local slaughter	56	50	57	73	52	50	50	64	55	69	47	50	673
Kansas City, Mo.:													
Receipts	236	171	156	161	191	182	284	453	432	437	288	217	3,208
Local slaughter	122	100	97	100	118	103	139	182	159	193	136	110	1,559
Stocker and feeder shipments	71	54	49	44	45	49	63	193	187	187	141	79	1,162
Oklahoma, Okla.:													
Receipts	38	28	28	24	23	24	46	54	44	31	48	27	415
Local slaughter	26	20	18	14	12	18	30	39	30	19	34	19	279
Stocker and feeder shipments	5	5	7	7	5	2	4	5	7	6	12	5	70
Omaha, Nebr.:													
Receipts	158	119	129	149	148	130	118	147	200	218	148	129	1,793
Local slaughter	99	68	80	97	95	89	82	73	85	89	68	72	997
Stocker and feeder shipments	40	32	23	26	24	18	17	63	107	109	78	49	586
Pittsburgh, Pa.:													
Receipts	61	51	54	56	60	58	80	83	81	84	76	77	821
Local slaughter	13	10	13	17	17	16	16	16	13	16	14	14	175
St. Joseph, Mo.:													
Receipts	61	51	51	52	51	42	57	77	71	86	60	50	709
Local slaughter	41	37	36	36	35	29	35	42	41	45	35	32	444
Stocker and feeder shipments	9	8	6	6	5	7	11	26	26	31	24	11	170
St. Paul, Minn.:													
Receipts	101	78	91	88	110	89	109	108	145	185	139	106	1,349
Local slaughter	73	56	66	65	83	65	66	61	65	97	84	70	851
Stocker and feeder shipments	18	15	19	17	18	17	27	36	54	61	39	27	348
Sioux City, Iowa:													
Receipts	69	48	51	58	61	60	50	56	86	100	60	60	759
Local slaughter	31	26	29	31	36	31	26	25	26	30	25	25	341
Stocker and feeder shipments	19	14	14	13	18	19	12	24	51	61	36	27	308

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.

[1] Less than 500.

TABLE 415.—*Cattle: Shipments of feeder cattle from public stockyards, 1923.*

ORIGIN.

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Chicago, Ill	15,569	13,682	15,829	15,939	11,822	13,375	11,931	20,746	36,203	50,642	39,376	29,988	275,102
Denver, Colo	25,145	11,103	8,318	10,696	42,588	18,471	11,707	12,652	35,451	61,220	71,981	37,943	347,275
Fort Worth, Tex	8,800	6,019	8,521	19,313	23,532	10,059	7,651	8,610	13,541	28,262	18,484	9,532	162,324
Indianapolis, Ind	3,208	2,465	2,866	1,869	1,815	4,223	7,185	5,309	8,923	11,689	5,210	4,399	59,161
Kansas City, Kans	84,291	48,462	43,575	40,192	46,996	48,977	58,067	187,261	193,326	180,410	130,668	76,182	1,138,407
Louisville, Ky	2,522	1,796	1,500	2,288	1,922	1,263	2,808	2,289	6,767	6,107	2,534	1,180	32,976
National Stock Yards, Ill	9,322	9,691	7,335	6,379	6,386	7,427	10,111	25,500	27,865	28,340	18,883	12,940	170,079
Oklahoma, Okla	6,967	5,864	8,057	6,545	4,234	2,625	4,497	5,527	7,345	6,859	13,514	5,140	77,174
Omaha, Nebr	37,420	29,317	20,214	22,361	18,425	15,118	13,660	57,273	100,383	103,383	76,672	50,315	544,541
Sioux City, Iowa	18,247	13,218	11,218	11,509	14,742	13,377	10,500	23,791	47,978	58,918	33,607	23,964	281,369
South St. Joseph, Mo	5,439	3,707	3,283	3,560	1,979	3,122	6,547	16,346	13,877	19,350	12,326	7,005	96,531
South St. Paul, Minn	12,369	12,199	11,388	12,913	13,412	7,667	12,211	22,132	35,126	39,076	27,946	16,088	222,527
Wichita, Kans	16,698	14,030	13,223	34,352	20,798	4,441	8,573	15,689	14,040	20,447	22,371	12,944	197,606
All other	10,708	6,162	6,199	10,201	11,152	10,926	9,791	12,480	18,996	46,460	32,156	18,611	193,842
Total	256,705	177,715	161,526	198,407	219,803	161,071	175,239	415,605	559,821	661,063	505,728	306,231	3,798,914

DESTINATION.

State.													
Colorado	7,964	6,478	3,027	4,294	7,437	5,466	6,958	4,157	17,831	28,531	44,072	22,764	158,979
Illinois	30,877	24,970	19,619	17,435	22,278	17,433	23,462	65,915	86,074	98,595	57,808	35,970	500,136
Indiana	8,608	4,937	6,074	4,143	3,972	7,753	10,010	20,757	26,291	28,403	17,326	10,364	148,638
Iowa	50,305	37,397	27,788	30,445	32,215	24,247	31,261	100,096	140,837	132,579	80,887	54,179	742,236
Kansas	39,608	26,405	30,048	50,422	36,218	16,223	22,269	48,759	50,886	75,676	70,192	44,748	511,454
Kentucky	3,870	2,550	2,203	2,861	2,194	1,945	3,760	5,086	8,208	7,663	7,608	1,274	49,222
Michigan	1,753	1,817	1,985	2,264	2,657	3,622	4,189	3,965	4,589	8,542	7,259	3,385	46,027
Minnesota	597	833	1,168	622	1,667	1,002	1,637	1,634	2,407	3,739	4,266	1,932	21,504
Missouri	43,531	21,088	15,365	14,343	11,732	20,076	17,345	58,766	64,463	69,832	52,944	28,919	418,404
Nebraska	37,182	27,079	22,844	28,399	51,588	28,197	26,317	70,723	102,836	107,655	85,082	60,346	648,248
Ohio	5,084	4,994	6,621	5,672	6,128	6,305	7,282	13,125	16,556	21,606	13,433	5,798	112,602
Oklahoma	8,447	6,913	10,347	19,295	14,135	5,072	6,252	5,076	8,100	10,970	14,306	6,051	114,994
Pennsylvania	1,778	596	1,072	388	366	1,242	2,001	2,143	2,959	5,304	5,025	4,569	27,443
South Dakota	2,816	3,214	2,723	2,301	6,878	7,766	3,306	3,992	9,829	14,207	7,639	4,912	69,583
Texas	6,861	4,240	3,097	4,745	4,435	4,619	2,156	3,235	7,336	23,124	18,758	12,713	95,349
Wisconsin	734	338	1,809	3,276	4,636	1,159	1,213	1,242	1,404	2,962	2,649	1,070	22,492
All other	6,690	3,866	5,736	7,502	11,267	8,944	5,761	6,936	9,215	21,675	16,774	7,237	111,603
Total	256,705	177,715	161,526	198,407	219,803	161,071	175,239	415,605	559,821	661,063	505,728	306,231	3,798,914

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

TABLE 416.—*Live cattle: United States exports and imports, 1910–1924.*

EXPORTS.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
1909–10	10,025	10,479	15,494	13,749	13,309	22,354	16,558	15,067	11,306	4,212	1,940	4,847	139,430
1910–11	4,193	6,667	8,085	8,828	11,711	16,215	14,509	8,525	11,528	14,435	20,232	25,172	150,100
1911–12	16,821	12,709	9,867	9,950	8,540	11,799	11,825	6,177	6,673	5,376	3,189	2,580	105,506
1912–13	3,232	2,493	572	1,591	1,289	1,466	1,009	1,006	956	2,367	1,269	7,464	24,714
1913–14	3,058	967	1,654	4,074	1,372	1,040	411	433	1,014	1,816	689	1,848	18,376
1914–15	484	405	895	388	164	147	162	175	133	223	85	2,213	5,494
1915–16	6,615	2,837	1,908	431	520	944	877	428	1,171	1,243	978	3,335	21,287
1916–17	467	713	972	551	917	527	488	313	1,314	1,918	882	4,325	13,387
1917–18	374	1,077	837	890	704	6,887	669	508	1,245	1,457	1,108	2,457	18,213
1918–19	427	542	243	418	3,598	4,608	516	529	732	20,291	4,336	6,105	42,345
1919–20	3,884	10,419	6,500	9,486	2,894	4,167	3,056	2,687	3,247	11,494	11,873	13,332	83,039
1920–21	9,740	2,804	4,174	5,252	10,060	7,563	6,004	7,498	11,886	23,066	28,076	29,530	145,673
1921–22	20,345	20,662	14,541	11,108	12,536	11,281	10,275	10,219	11,107	9,563	10,871	12,773	155,281
1922–23	9,588	8,806	4,965	9,521	8,919	4,600	3,919	2,138	2,880	2,924	1,706	1,520	61,486
1923–24	2,394	5,709	3,378	4,629	2,946	3,051							

IMPORTS.

1909–10	2,724	5,707	7,199	7,789	32,464	19,475	7,440	4,283	5,815	36,125	56,336	10,581	195,938
1910–11	1,267	1,788	7,502	20,377	33,663	25,963	13,376	3,237	3,136	19,525	38,245	14,754	182,923
1911–12	8,826	10,294	18,204	39,222	44,927	38,722	21,262	8,038	14,822	31,793	59,229	23,078	318,417
1912–13	21,637	15,355	18,527	27,696	43,758	40,522	24,111	30,630	36,105	47,708	68,607	46,993	421,049
1913–14	38,937	47,014	64,605	130,639	123,118	78,470	90,694	72,558	54,786	65,772	58,647	43,128	868,368
1914–15	30,217	54,459	53,574	77,219	73,427	53,410	38,233	51,018	33,891	14,538	15,159	43,022	538,167
1915–16	58,379	49,985	57,050	82,276	83,037	25,901	9,762	8,662	9,409	17,285	23,992	13,447	439,185
1916–17	15,219	26,121	37,476	48,907	51,526	33,841	22,266	22,094	23,444	32,181	33,049	28,702	374,826
1917–18	18,780	20,881	39,244	49,061	37,359	20,449	9,286	11,924	14,603	22,563	22,112	27,457	293,719
1918–19	21,512	32,517	47,983	49,439	54,403	38,802	29,937	38,813	27,067	31,592	44,856	23,478	440,399
1919–20	32,863	40,830	68,094	103,624	108,159	93,082	26,971	24,590	16,766	19,874	16,094	24,381	575,328
1920–21	18,333	32,071	43,055	48,680	62,049	46,250	17,469	8,066	11,677	23,674	14,498	4,152	329,974
1921–22	5,057	10,948	18,814	28,662	37,955	13,899	2,876	2,482	2,431	6,139	12,030	10,240	151,533
1922–23	18,164	41,565	58,388	40,774	28,923		5,795	16,998	5,230	7,459	9,199	6,325	238,820
1923–24	6,064	9,604	19,947	18,383	17,586	15,891							

Division of Statistical and Historical Research.

TABLE 417.—*Farm price of cattle other than milk cows, by age groups, United States, January 1, 1894–1924.*

Jan. 1.	Under 1 year old.	1 and under 2 years.	2 years and over.	Jan. 1.	Under 1 year old.	1 and under 2 years.	2 years and over.
1894	$6.16	$10.56	$19.59	1910	$10.92	$17.89	$25.96
1895	5.91	9.94	18.69	1911	11.72	19.37	27.90
1896	6.72	11.49	20.97	1912	12.14	20.09	29.12
1897	7.47	12.51	21.69	1913	14.90	25.11	36.38
1898	10.02	16.17	26.85	1914	17.84	29.77	42.77
1899	11.15	17.78	29.10	1915	19.06	31.21	45.92
1900	12.35	19.35	31.89	1916	19.08	31.48	45.81
1901	11.18	17.92	27.57	1917	20.71	33.93	48.63
1902	10.05	16.56	26.41	1918	23.44	38.63	55.62
1903	10.59	17.54	24.69	1919	24.97	41.74	60.41
1904	9.44	15.66	21.74	1920	24.50	40.69	59.66
1905	8.91	14.57	20.05	1921	17.42	29.01	43.72
1906	9.04	15.13	21.40	1922	13.41	22.29	32.77
1907	10.00	16.30	22.93	1923	14.76	24.35	34.79
1908				1924	14.45	23.98	33.89
1909							

Division of Crop and Livestock Estimates.

TABLE 418.—*Cattle, live: Imports, exports, and prices, 1896–1923.*

Year ending June 30.	Imports.			Exports.		
	Number.	Value.	Average import price.	Number.	Value.	Average export price.
1895–96	217, 826	$1, 509, 856	$6. 93	372, 461	$34, 560, 672	$92. 79
1896–97	328, 977	2, 589, 857	7. 87	392, 190	36, 357, 451	92. 70
1897–98	291, 589	2, 913, 223	9. 99	439, 255	37, 827, 500	86. 12
1898–99	199, 752	2, 320, 362	11. 62	389, 490	30, 516, 833	78. 35
1899–1900	181, 006	2, 257, 694	12. 47	397, 286	30, 635, 153	77. 11
1900–1901	146, 022	1, 931, 433	13. 23	459, 218	37, 566, 980	81. 81
1901–2	96, 027	1, 608, 722	16. 75	392, 884	29, 902, 212	76. 11
1902–3	66, 175	1, 161, 548	17. 55	402, 178	29, 848, 936	74. 22
1903–4	16, 056	310, 737	19. 35	593, 409	42, 256, 291	71. 21
1904–5	27, 855	458, 572	16. 46	567, 806	40, 598, 048	71. 50
1905–6	29, 019	548, 430	18. 90	584, 239	42, 081, 170	72. 03
1906–7	32, 402	565, 122	17. 44	423, 051	34, 577, 392	81. 73
1907–8	92, 356	1, 507, 310	16. 32	349, 210	29, 339, 134	84. 02
1908–9	139, 184	1, 999, 422	14. 37	207, 542	18, 046, 976	86. 96
1909–10	195, 938	2, 999, 324	15. 31	139, 430	12, 200, 154	87. 50
1910–11	182, 923	2, 953, 077	16. 14	150, 100	13, 163, 920	87. 70
1911–12	318, 372	4, 805, 574	15. 09	105, 506	8, 870, 075	84. 07
1912–13	421, 649	6, 640, 668	15. 75	24, 714	1, 177, 199	47. 63
1913–14	868, 368	18, 096, 718	21. 53	18, 376	647, 288	35. 22
1914–15	538, 167	17, 513, 175	32. 54	5, 484	702, 847	128. 16
1915–16	439, 185	15, 187, 593	34. 58	21, 666	2, 383, 765	110. 02
1916–17	374, 826	13, 021, 259	34. 74	13, 387	949, 503	70. 93
1917–18	293, 719	17, 852, 176	60. 78	18, 213	1, 247, 800	68. 51
1918–19	440, 399	36, 995, 921	84. 01	42, 345	2, 092, 816	49. 42
1919–20	575, 328	45, 081, 179	78. 36	83, 039	11, 921, 518	43. 57
1920–21	329, 974	23, 634, 361	71. 62	145, 673	11, 050, 507	75. 86
1921–22	151, 533	3, 055, 201	20. 16	155, 281	9, 877, 596	63. 61
1922–23	263, 887	6, 630, 119	25. 12	61, 486	2, 954, 729	48. 06

Division of Statistical and Historical Research.

TABLE 419.—*Milk cows: Farm price per head, 15th of month, United States 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	41. 18	40. 35	41. 75	42. 22	42. 38	43. 46	42. 86	42. 77	42. 68	43. 20	43. 34	43. 41	42. 47
1911	44. 70	44. 48	45. 42	44. 81	44. 54	43. 86	42. 44	42. 26	42. 22	42. 09	42. 70	42. 72	43. 57
1912	42. 89	43. 40	44. 09	45. 14	45. 63	45. 84	45. 41	46. 11	46. 79	47. 30	47. 38	48. 62	45. 72
1913	49. 51	51. 42	54. 02	55. 34	54. 80	55. 20	54. 80	54. 78	55. 78	56. 47	57. 71	57. 19	54. 75
Av. 1910-1913	44. 57	44. 91	46. 32	46. 88	46. 84	47. 09	46. 38	46. 48	46. 87	47. 42	47. 78	47. 98	47. 99
1914	57. 99	59. 09	59. 23	59. 60	59. 85	59. 82	59. 67	60. 72	59. 58	59. 53	58. 77	58. 23	59. 34
1915	58. 47	57. 99	58. 00	57. 78	58. 29	58. 59	60. 31	58. 34	58. 38	58. 76	57. 35	56. 79	58. 25
1916	57. 79	57. 99	59. 51	60. 08	60. 98	61. 63	62. 04	61. 32	61. 41	62. 19	62. 67	63. 18	60. 95
1917	63. 92	65. 93	68. 46	72. 09	72. 78	72. 87	72. 81	72. 53	73. 93	75. 79	75. 00	76. 16	71. 86
1918	76. 54	78. 36	80. 71	82. 45	84. 11	84. 74	84. 97	84. 06	85. 21	85. 41	84. 51	85. 78	83. 07
1919	86. 10	86. 15	88. 15	90. 91	93. 43	93. 84	94. 51	94. 72	93. 42	93. 43	93. 27	95. 54	91. 96
1920	94. 42	95. 27	94. 94	95. 36	94. 56	94. 56	91. 23	90. 50	89. 40	85. 90	77. 56	70. 42	89. 51
Av. 1914-1920	70. 75	71. 54	72. 71	74. 12	74. 86	75. 15	75. 08	74. 60	74. 48	74. 43	72. 73	72. 30	73. 56
1921	66. 82	63. 44	65. 37	64. 35	62. 63	59. 89	56. 55	55. 85	54. 33	53. 39	53. 28	53. 30	59. 10
1922	52. 83	53. 54	54. 87	54. 46	54. 76	54. 87	54. 20	52. 67	52. 79	52. 86	51. 62	53. 21	53. 56
1923	54. 01	54. 15	55. 29	56. 14	55. 91	56. 34	56. 22	55. 45	56. 13	55. 51	55 39	54. 66	55. 43

Division of Crop and Livestock Estimates.

TABLE 420.—*Beef cattle: Farm price per 100 pounds, 15th of month, United States, 1910–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910–11	4.64	4.65	4.64	4.48	4.45	4.58	4.57	4.66	4.67	4.59	4.43	4.28	4.55
1911–12	4.39	4.43	4.32	4.36	4.37	4.46	4.61	4.75	5.15	5.36	5.23	5.17	4.69
1912–13	5.37	5.35	5.36	5.22	5.33	5.40	5.55	5.88	6.08	6.01	6.02	5.98	5.60
1913–14	5.91	5.92	6.05	5.99	5.96	6.04	6.16	6.28	6.29	6.33	6.32	6.38	6.12
Av. 1910–1913	5.08	5.09	5.09	5.01	5.03	5.12	5.22	5.39	5.55	5.57	5.50	5.45	5.24
1914–15	6.47	6.38	6.23	6.02	6.01	5.99	5.98	5.92	5.96	6.13	6.20	6.07	6.12
1915–16	6.18	6.06	6.04	5.85	5.75	5.85	5.99	6.37	6.66	6.73	6.91	6.78	6.24
1916–17	6.51	6.55	6.37	6.44	6.56	6.86	7.36	7.91	8.57	8.70	8.65	8.30	7.31
1917–18	8.17	8.40	8.35	8.21	8.24	8.33	8.55	8.85	9.73	10.38	10.40	10.07	8.92
1918–19	9.71	9.63	9.33	9.14	9.28	9.65	10.02	10.34	10.81	10.84	10.20	9.96	9.85
1919–20	9.82	9.02	8.65	8.65	8.63	8.99	8.98	9.08	9.20	8.97	9.32	8.93	9.09
1920–21	8.56	8.29	7.77	7.15	6.36	6.32	6.02	6.36	6.08	5.98	5.65	5.40	6.76
Av. 1914–1920	7.92	7.76	7.53	7.35	7.26	7.43	7.55	7.83	8.14	8.25	8.19	7.93	7.76
1921–22	5.39	4.98	4.81	4.69	4.62	4.75	5.07	5.46	5.53	5.70	5.84	5.76	5.18
1922–23	5.51	5.44	5.48	5.29	5.28	5.51	5.55	5.62	5.78	5.77	5.82	5.72	5.55
1923–24	5.60	5.70	5.48	5.23	5.26								

Division of Crop and Livestock Estimates.

TABLE 421.—*Veal calves: Farm price per 100 pounds, 15th of month, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	6.41	6.28	6.59	6.54	6.30	6.57	6.37	6.29	6.43	6.41	6.39	6.38	6.42
1911	6.50	6.38	6.48	5.96	5.98	5.72	5.74	5.93	6.11	6.15	6.10	5.98	6.04
1912	6.06	6.07	6.11	6.22	6.23	6.33	6.33	6.62	6.83	6.90	6.77	6.88	6.45
1913	7.06	7.23	7.49	7.38	7.17	7.53	7.46	7.53	7.73	7.72	7.70	7.74	7.48
Av. 1910–1913	6.51	6.49	6.67	6.52	6.42	6.54	6.48	6.59	6.78	6.80	6.74	6.74	6.60
1914	7.89	7.90	7.92	7.68	7.59	7.69	7.80	8.08	8.06	7.97	7.78	7.61	7.83
1915	7.66	7.62	7.50	7.31	7.35	7.53	7.87	7.75	7.80	7.91	7.69	7.61	7.63
1916	7.67	7.87	8.11	8.00	8.08	8.39	8.54	8.59	8.77	8.59	8.60	8.79	8.35
1917	9.15	9.88	9.94	10.49	10.48	10.60	10.77	10.56	11.08	11.10	10.66	10.98	10.51
1918	11.16	11.17	11.33	11.71	11.62	11.88	12.33	12.22	12.57	12.35	11.94	12.31	11.91
1919	12.39	12.18	12.65	12.78	12.11	12.40	13.38	13.43	13.39	12.87	12.65	12.67	12.76
1920	12.89	13.12	12.98	12.72	11.69	11.68	11.44	11.64	11.88	11.64	10.77	9.27	11.80
Av. 1914–1920	9.83	9.96	10.06	10.10	9.85	10.02	10.30	10.32	10.51	10.35	10.01	9.89	10.11
1921	9.34	9.08	9.05	7.73	7.55	7.43	7.37	7.31	7.67	7.61	7.20	7.14	7.81
1922	7.23	7.84	7.85	7.26	7.28	7.07	7.49	7.67	8.10	8.17	7.92	7.78	7.68
1923	8.05	8.37	8.20	7.78	7.69	7.66	8.00	8.00	8.34	8.37	7.85	7.75	7.99

Division of Crop and Livestock Estimates

TABLE 422.—*Cattle, beef: Farm price per 100 pounds, 15th of month, by States, 1923.*

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	7.00	7.00	6.80	7.00	7.50	7.50	7.40	7.20	7.60	7.10	6.50	6.60	7.10
New Hampshire	------	5.90	5.70	6.00	6.20	6.10	6.30	6.10	5.90	6.10	6.20	6.00	6.05
Vermont	4.80	4.70	4.30	5.00	4.40	4.20	5.20	4.90	4.70	4.60	5.10	4.80	4.72
Massachusetts	5.50	6.00	6.40	5.70	5.90	6.30	6.00	5.00	6.00	5.90	5.60	5.80	5.84
Rhode Island	5.70	5.70	5.50	6.50	6.00	5.50	6.00	6.10	6.00	6.50	6.50	------	6.00
Connecticut	------	5.50	5.60	------	5.80	5.50	6.50	------	------	5.50	5.00	------	5.63
New York	5.50	5.50	5.20	5.40	5.00	5.20	5.80	6.10	5.50	5.20	5.40	5.20	5.42
New Jersey	------	7.00	------	------	6.30	------	------	6.50	6.50	------	7.00	6.80	6.68
Pennsylvania	7.30	7.10	7.00	7.20	7.20	7.50	7.50	7.50	7.40	7.20	6.90	7.00	7.23
Delaware	8.00	------	7.20	8.20	------	------	8.60	7.70	8.50	7.50	8.00	7.20	7.88
Maryland	7.00	6.70	6.80	6.70	6.80	8.00	7.70	7.10	6.90	6.90	6.40	7.00	7.00
Virginia	6.00	6.00	6.20	6.30	6.50	6.50	6.40	6.50	6.30	6.30	5.70	5.60	6.19
West Virginia	6.30	6.70	6.50	6.40	6.40	6.80	6.90	7.00	6.20	6.30	6.00	5.90	6.45
North Carolina	5.30	5.20	5.10	5.20	5.10	5.20	5.10	5.20	5.10	5.10	5.30	5.10	5.17
South Carolina	4.00	3.80	4.20	4.00	4.30	4.00	4.20	4.00	3.90	4.00	3.80	4.00	4.02
Georgia	3.30	3.40	3.20	3.90	3.60	3.80	3.40	3.50	3.50	3.50	3.40	3.30	3.48
Florida	4.60	4.60	4.80	4.70	4.60	4.60	4.10	4.40	3.90	4.90	4.50	4.30	4.50
Ohio	6.80	6.90	6.70	6.70	6.90	7.10	6.90	6.90	7.10	6.60	6.30	6.20	6.76
Indiana	6.30	6.40	6.30	6.40	6.50	6.70	6.70	6.40	7.00	6.60	6.00	6.20	6.46
Illinois	6.40	6.40	6.70	6.50	6.00	6.70	6.50	7.30	7.00	6.50	6.00	6.60	6.60
Michigan	5.60	5.70	6.10	6.00	6.10	6.30	6.00	6.20	6.40	6.00	5.80	5.50	5.98
Wisconsin	4.30	4.30	4.80	5.00	5.00	4.70	4.90	4.60	4.50	4.60	4.20	4.00	4.58
Minnesota	4.70	5.10	5.20	5.30	5.50	5.50	5.40	5.20	5.40	4.90	4.40	4.60	5.10
Iowa	7.00	7.00	6.70	7.40	7.10	7.90	7.70	7.50	8.20	7.60	7.00	7.00	7.34
Missouri	6.40	6.20	6.50	6.30	6.50	6.70	6.70	6.40	6.80	6.30	6.20	6.00	6.42
North Dakota	5.10	5.20	5.30	5.30	5.10	5.30	5.30	4.90	4.90	4.90	4.00	4.30	4.97
South Dakota	5.60	5.70	5.80	6.10	6.00	6.10	6.00	6.00	6.50	6.10	5.50	5.50	5.91
Nebraska	6.50	6.50	6.70	6.80	6.90	7.00	7.10	7.00	7.00	7.00	6.50	6.50	6.79
Kansas	6.00	6.20	5.80	6.40	6.60	6.20	6.10	5.60	5.70	5.50	5.30	5.50	5.91
Kentucky	5.70	5.50	6.00	5.80	5.60	5.60	5.50	5.40	5.60	5.20	5.00	5.10	5.50
Tennessee	4.70	4.50	4.70	4.80	4.90	4.60	4.70	4.70	4.50	4.20	3.90	3.90	4.51
Alabama	3.00	3.30	3.40	3.70	3.50	3.70	3.40	3.40	3.30	3.20	3.10	3.00	3.33
Mississippi	3.00	3.00	3.10	3.10	3.00	3.10	3.10	3.10	2.90	2.90	2.40	2.90	2.97
Louisiana	4.20	4.40	4.10	4.00	4.10	4.10	5.00	4.80	4.70	4.60	4.20	4.50	4.39
Texas	4.10	4.20	4.50	4.70	4.50	4.30	4.30	4.00	4.00	4.00	4.30	4.20	4.26
Oklahoma	4.30	4.40	4.50	5.00	4.40	4.50	4.30	4.00	4.30	4.00	3.80	4.30	4.32
Arkansas	3.40	3.30	3.20	3.40	3.50	3.40	3.60	3.20	3.40	3.30	3.20	3.10	3.33
Montana	5.40	6.00	5.70	6.30	6.30	6.40	6.00	6.50	5.90	5.70	5.00	5.30	5.88
Wyoming	6.00	6.40	7.00	6.50	5.90	6.50	6.40	6.30	6.50	5.50	5.50	6.00	6.21
Colorado	5.80	5.70	6.20	6.30	6.50	6.50	6.40	5.70	6.00	5.30	5.30	5.20	5.91
New Mexico	6.00	5.60	5.60	5.00	5.60	5.50	5.00	5.00	4.70	4.60	4.00	4.20	5.07
Arizona	4.90	5.30	5.30	5.30	5.40	5.40	5.00	5.10	5.30	5.50	5.40	5.10	5.25
Utah	5.70	5.60	5.30	5.30	5.70	5.60	5.40	5.40	5.00	4.90	4.90	5.00	5.32
Nevada	6.60	6.50	6.10	6.40	6.50	------	5.60	5.00	------	6.20	5.90	5.60	6.04
Idaho	5.40	5.30	5.40	5.40	6.10	5.50	5.30	5.20	5.20	5.10	4.80	4.40	5.26
Washington	4.90	5.20	5.50	5.50	6.30	5.10	5.20	5.10	5.00	5.10	5.00	4.60	5.21
Oregon	5.50	5.40	5.70	5.70	6.30	6.30	6.00	5.20	5.80	4.80	5.70	5.00	5.62
California	7.10	6.60	6.40	6.30	6.10	6.00	5.70	6.00	5.90	6.10	6.10	6.10	6.20
United States	5.51	5.55	5.62	5.78	5.77	5.82	5.72	5.60	5.70	5.48	5.23	5.26	5.59

Division of Crop and Livestock Estimates.

TABLE 423.—*Calves, veal: Farm price per 100 pounds, 15th of month, by States, 1923.*

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	10.20	9.00	9.40	9.70	9.90	9.10	10.00	9.50	10.10	9.80	9.50	9.00	9.60
New Hampshire	------	11.00	11.00	10.00	10.50	10.90	10.60	9.70	10.40	10.00	11.30	9.70	10.46
Vermont	9.20	9.20	9.30	8.40	8.10	8.30	8.50	9.20	9.10	9.20	9.50	9.50	8.96
Massachusetts	11.80	10.40	11.50	10.50	9.90	11.00	10.60	10.20	11.10	11.00	11.70	9.10	10.73
Rhode Island	11.00	11.60	11.00	9.80	11.00	10.60	11.50	11.50	11.00	11.50	10.50	11.50	11.04
Connecticut	9.60	9.00	11.00	10.50	10.60	11.60	11.40	------	11.30	12.30	11.70	11.00	10.85
New York	10.70	11.40	11.10	9.80	9.30	9.70	10.60	10.70	11.00	11.40	11.50	10.90	10.68
New Jersey	11.50	11.30	------	13.60	12.40	12.00	12.60	12.00	12.50	------	11.50	11.00	11.98
Pennsylvania	10.60	10.50	10.30	10.00	10.00	10.10	10.30	10.20	10.80	10.90	10.70	10.70	10.42
Delaware	------	------	13.00	13.30	------	------	12.10	13.30	12.00	14.00	13.90	12.30	12.99
Maryland	11.00	11.30	11.70	9.90	9.90	9.70	9.90	9.90	11.10	11.00	10.50	11.00	10.58
Virginia	9.30	9.30	9.20	9.10	8.60	9.00	8.00	8.10	8.60	8.50	9.00	8.00	8.64
West Virginia	9.00	9.70	9.30	8.60	8.60	8.20	8.80	9.20	8.40	8.90	8.60	8.20	8.79
North Carolina	6.80	6.40	6.70	6.40	6.40	6.70	6.50	6.20	5.90	6.50	6.30	6.60	6.45
South Carolina	5.00	5.60	5.30	6.00	5.90	5.60	6.00	5.80	5.90	5.50	4.50	5.70	5.57
Georgia	5.00	5.30	5.30	5.30	5.50	5.50	5.00	5.30	4.90	5.10	5.00	5.00	5.18
Florida	6.50	6.60	7.00	6.20	6.10	6.00	5.90	6.10	7.00	8.30	7.00	7.50	6.68
Ohio	10.00	11.10	10.80	9.10	9.00	9.00	9.40	9.90	10.30	10.50	9.90	9.40	9.87
Indiana	9.80	9.90	9.60	8.60	8.30	8.20	8.90	9.10	9.60	10.00	9.10	9.00	9.18
Illinois	9.00	9.40	8.90	8.20	7.80	8.00	8.50	8.80	9.50	9.60	8.50	8.40	8.72
Michigan	10.10	10.70	10.40	9.00	8.70	9.00	9.40	10.10	10.80	10.40	9.60	9.80	9.83
Wisconsin	8.00	8.60	7.90	7.10	7.20	7.40	8.10	8.40	9.00	9.00	7.60	7.60	7.99
Minnesota	7.30	7.30	7.10	7.00	7.10	7.10	7.60	7.70	8.30	8.20	7.00	6.90	7.38
Iowa	8.20	8.40	8.30	8.20	8.00	8.30	8.40	8.20	9.10	8.70	8.20	7.80	8.32
Missouri	7.90	8.50	8.00	7.50	7.60	7.20	7.50	7.30	7.80	7.70	7.50	7.30	7.65
North Dakota	6.80	7.00	6.70	6.50	7.40	6.60	7.00	6.70	7.00	7.30	6.30	6.30	6.80
South Dakota	7.80	7.30	7.90	7.80	7.10	7.60	7.60	8.10	8.20	7.90	7.30	7.00	7.63
Nebraska	7.50	8.20	7.70	7.70	7.70	7.50	7.90	7.90	7.60	7.90	7.30	7.40	7.69
Kansas	7.40	7.90	7.20	7.20	7.50	7.00	7.10	6.60	7.20	7.40	6.70	6.80	7.17
Kentucky	8.20	8.30	8.20	7.30	7.00	7.00	7.40	7.30	7.90	7.70	7.50	7.40	7.60
Tennessee	5.80	5.70	6.10	5.60	6.00	5.50	5.70	5.60	5.40	5.40	5.00	5.40	5.60
Alabama	4.70	4.60	4.70	5.00	5.10	5.10	5.50	5.00	4.50	4.40	4.30	4.40	4.78
Mississippi	4.30	4.90	4.90	5.00	4.70	4.50	5.10	4.60	4.20	4.70	4.20	3.80	4.58
Louisiana	------	5.10	5.20	5.10	5.60	5.20	5.50	5.40	5.10	5.20	5.00	5.00	5.22
Texas	5.10	5.50	6.00	6.20	5.60	5.30	5.70	5.00	5.20	5.40	5.40	5.40	5.48
Oklahoma	5.00	5.70	5.90	6.00	6.00	5.60	5.20	5.30	5.30	5.40	5.20	5.80	5.53
Arkansas	4.90	4.90	5.00	5.30	4.90	5.00	5.40	5.40	5.10	5.40	4.50	4.70	5.04
Montana	7.20	7.50	8.50	8.00	8.80	9.00	8.30	8.50	8.40	8.90	7.50	7.00	8.13
Wyoming	8.70	8.20	8.30	8.70	9.10	9.50	9.10	8.50	7.80	7.50	7.80	8.00	8.43
Colorado	6.90	8.00	8.20	8.50	8.40	8.50	8.10	7.40	8.00	7.30	6.80	7.10	7.77
New Mexico	7.60	6.00	7.10	7.70	------	7.30	6.20	------	6.80	6.10	6.00	6.50	6.73
Arizona	6.20	6.00	6.40	6.40	5.80	6.50	6.20	7.00	6.30	6.40	6.50	6.30	6.33
Utah	9.00	9.00	9.10	9.10	9.50	9.00	8.70	9.00	9.10	8.00	8.40	8.20	8.84
Nevada	8.00	7.70	8.20	9.00	9.00	------	8.00	8.10	------	------	8.00	7.10	8.12
Idaho	7.30	7.00	7.20	6.80	7.20	7.10	7.30	6.70	6.80	6.50	6.50	6.00	6.87
Washington	7.40	7.80	7.80	8.30	8.20	7.50	7.90	7.60	8.00	7.30	8.50	7.80	7.84
Oregon	8.10	10.00	9.10	9.10	10.50	9.00	7.80	8.50	8.60	8.50	9.70	9.20	9.01
California	8.10	8.50	8.40	8.50	8.30	8.10	8.60	8.30	8.60	8.50	8.10	7.90	8.28
United States	8.05	8.37	8.26	7.78	7.69	7.66	8.00	8.00	8.34	8.37	7.85	7.75	8.00

Division of Crop and Livestock Estimates.

TABLE 424.—*Cattle and calves: Monthly average price per 100 pounds, Chicago, 1900–1923.*

GOOD BEEF STEERS.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[2]
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1900	5.20	4.85	4.85	4.95	5.10	5.20	5.25	5.40	5.35	5.25	5.15	5.00	5.13
1901	4.85	4.80	4.95	5.15	5.30	5.55	5.10	5.10	5.50	5.45	5.50	5.65	5.24
1902	5.70	5.55	6.05	6.45	6.60	6.95	7.10	7.05	6.65	6.20	5.20	4.80	6.19
1903	4.80	4.60	4.75	4.90	4.80	4.90	4.95	5.00	4.95	4.70	4.45	4.55	4.78
1904	4.65	4.50	4.60	4.65	4.85	5.60	5.40	5.10	5.10	5.20	4.95	4.40	4.92
1905	4.65	4.75	5.00	5.75	5.45	5.25	4.95	5.00	5.05	4.80	4.65	4.75	5.00
1906	5.00	5.05	5.15	5.05	5.20	5.20	5.40	5.45	5.50	5.60	5.60	5.50	5.31
1907	5.60	5.55	5.55	5.65	5.65	6.20	6.40	6.25	6.10	6.10	5.40	5.10	5.80
1908	5.30	5.40	6.00	6.50	6.60	6.90	6.45	6.00	5.95	5.70	5.90	6.00	6.06
1909	6.00	5.85	6.10	6.10	6.45	6.45	6.45	6.70	6.75	6.60	6.45	6.20	6.34
1910	6.20	6.35	7.35	7.55	7.50	7.50	7.10	6.85	6.80	6.60	6.20	6.00	6.83
1911	6.15	6.15	6.20	6.10	5.95	6.05	6.30	6.95	6.80	6.75	6.70	6.65	6.40
1912	6.85	6.60	7.20	7.65	7.95	8.00	7.90	8.50	9.15	7.90	8.10	7.85	7.80
1913	7.80	8.25	8.30	8.15	8.00	8.15	8.25	8.30	8.50	8.40	8.25	8.20	8.21
Av. 1909–1913	6.60	6.64	7.03	7.11	7.17	7.23	7.20	7.46	7.60	7.25	7.14	6.98	7.12
1914	8.45	8.30	8.35	8.50	8.40	8.60	8.80	9.10	9.35	9.05	8.60	8.35	8.65
1915	8.05	7.50	7.65	7.70	8.35	8.80	9.20	9.05	8.95	8.80	8.70	8.35	8.43
1916	8.35	8.35	8.75	9.10	9.50	9.85	9.25	9.45	9.40	9.75	10.15	10.00	9.33
1917	10.15	10.50	11.25	11.75	11.90	12.15	12.35	12.70	13.10	11.70	11.10	11.40	11.67
1918	12.10	12.00	12.60	14.70	15.40	15.85	16.05	15.75	16.00	14.80	15.05	14.90	14.60
1919	15.80	15.95	16.05	15.85	15.00	13.55	15.60	16.45	15.50	16.15	15.10	14.35	15.45
1920	13.95	13.05	13.10	12.30	12.25	14.95	14.68	14.30	14.95	14.61	11.65	10.08	13.32
Av. 1914–1920	10.98	10.81	11.11	11.41	11.54	11.96	12.28	12.40	12.46	12.12	11.48	11.06	11.64
1921	8.94	8.57	9.41	8.22	8.33	7.94	8.09	8.32	7.67	7.59	7.52	7.31	8.16
1922	7.37	7.60	8.01	7.94	8.20	8.83	9.48	9.62	9.98	10.53	9.42	8.89	8.82
1923	9.17	8.86	8.83	9.01	9.41	9.94	10.05	10.48	10.12	9.90	9.36	8.92	9.50

CALVES.

1901	5.85	5.95	5.75	5.15	5.25	6.00	5.75	5.25	5.85	5.90	5.60	5.00	5.61
1902	6.30	6.75	6.00	5.50	5.75	5.75	6.50	6.75	7.00	6.80	6.60	6.60	6.36
1903	7.10	7.15	6.50	5.75	5.60	6.20	5.65	6.40	6.65	6.40	5.75	4.95	6.18
1904	5.85	6.35	5.65	4.60	4.60	4.90	5.75	5.60	5.90	6.10	6.00	6.00	5.61
1905	6.15	6.50	5.70	5.10	5.25	5.85	5.75	5.90	6.00	6.00	6.00	6.60	5.90
1906	7.00	6.40	6.25	5.60	5.65	5.80	5.60	6.00	6.75	6.50	6.25	7.00	6.23
1907	7.00	6.50	6.60	6.00	6.35	6.15	6.40	6.35	6.50	6.00	6.25	6.00	6.34
1908	6.75	6.60	6.20	5.50	5.60	5.80	6.00	6.75	7.60	7.20	6.50	7.40	6.49
1909	7.60	6.85	7.00	6.30	6.35	6.50	7.00	7.50	7.60	8.10	7.40	8.25	7.20
1910	8.60	8.65	9.00	7.85	7.35	7.85	7.60	7.75	8.50	8.65	8.75	8.50	8.25
1911	8.75	8.40	7.40	6.60	7.25	7.60	7.40	8.00	8.75	8.60	8.35	7.85	7.91
1912	8.75	7.50	8.00	7.40	7.75	8.00	8.75	9.75	11.25	10.00	9.85	10.25	8.94
1913	9.75	9.85	10.50	8.50	9.25	9.75	10.40	11.50	11.25	10.50	10.35	10.75	10.20
Av. 1909–1913	8.69	8.25	8.38	7.33	7.59	7.94	8.23	8.90	9.47	9.17	8.94	9.12	8.50
1914	11.00	10.75	9.00	8.85	9.50	9.40	10.60	11.00	11.40	10.65	10.35	8.65	10.10
1915	9.85	10.35	10.00	8.40	9.15	9.60	10.25	11.50	11.25	10.85	10.15	9.65	10.08
1916	10.15	10.65	9.65	8.75	10.40	11.25	11.40	12.00	12.40	11.50	11.85	11.75	10.98
1917	13.40	12.65	13.40	12.50	13.25	13.40	13.00	15.15	15.00	14.85	13.50	15.25	13.78
1918	15.35	14.15	15.25	14.50	13.50	16.02	16.67	17.28	18.63	16.83	16.86	16.01	15.92
1919	15.62	15.75	15.01	14.31	14.66	16.37	17.88	19.62	20.52	18.05	17.60	16.56	16.83
1920	17.74	16.73	16.73	14.22	12.12	13.68	13.98	15.08	16.39	14.18	13.74	10.39	14.58
Av. 1914–1920	13.30	13.00	12.72	11.65	11.80	12.82	13.40	14.52	15.08	13.84	13.44	12.61	13.18
1921	11.49	11.02	10.33	8.12	8.66	8.72	9.73	9.39	10.71	8.68	7.70	7.81	9.36
1922	8.36	9.16	8.26	6.97	8.46	8.89	8.90	10.88	11.92	9.65	8.91	9.42	9.15
1923	10.08	10.63	9.32	8.68	9.51	9.31	9.60	10.01	9.98	9.39	7.82	8.69	9.42

Division of Statistical and Historical Research.

Figures prior to July, 1920, for good beef steers, and prior to June, 1918, for calves, compiled from Chicago Drovers Journal Yearbook; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Bulk of sales, 1,100 lbs. up.

[2] Simple average of monthly average prices.

TABLE 425.—*Cattle and calves: Monthly average price per 100 pounds, 1923.*

CHICAGO.

Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Beef steers:							
Medium and heavyweight (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	11.35	10.87	10.18	10.04	10.38	10.99	10.72
Good	10.40	9.84	9.55	9.42	9.77	10.19	9.86
Medium	8.76	8.82	8.74	8.65	9.03	9.12	8.85
Common	7.14	7.21	7.47	7.58	8.09	7.92	7.57
Lightweight (1,100 lbs. down)—							
Choice and prime	11.61	10.86	10.25	9.99	10.26	10.81	10.63
Good	10.21	9.77	9.60	9.36	9.65	10.00	9.76
Medium	8.62	8.68	8.70	8.54	8.87	8.90	8.72
Common	6.91	7.02	7.32	7.40	7.85	7.30	7.30
Butcher cattle:							
Heifers, common to choice	7.52	7.54	7.61	7.66	7.95	7.95	7.70
Cows, common to choice	5.82	5.96	6.06	6.16	6.50	6.14	6.11
Bulls, bologna and beef	5.40	5.54	5.73	5.82	6.16	5.78	5.74
Canners and cutters:							
Cows and heifers	3.25	3.64	3.82	3.88	4.06	3.24	3.65
Canner steers	3.90	4.19	4.44	4.54	5.00	4.76	4.47
Veal calves:							
Light to medium weight, medium to choice	10.06	10.63	9.32	8.68	9.51	9.31	9.59
Heavyweight, common to choice	6.11	7.06	6.06	5.96	6.48	6.38	6.35
Feeder steers:							
Heavy (1,000 lbs. up), common to choice	7.05	7.08	7.46	7.41	7.76	7.89	7.44
Light and medium (750 to 1,000 lbs.), common to choice	7.01	6.96	7.25	7.17	7.39	7.41	7.20
Stock cattle:							
Steers, common to choice	6.14	6.21	6.42	6.50	6.83	6.69	6.46
Cows and heifers, common to choice	4.34	4.32	4.59	4.75	5.17	4.98	4.69
Calves—							
Good and choice							
Common and medium							

Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31
Slaughter cattle:							
Beef steers (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	11.13	12.08	12.43	12.01	11.82	11.97	11.91
Good	10.20	10.87	10.95	10.90	10.58	10.58	10.68
Medium	9.08	9.31	8.99	9.27	8.99	9.04	9.11
Common	7.70	7.45	7.09	6.94	6.76	6.93	7.14
Beef steers (1,100 lbs. down)—							
Choice and prime	10.85	11.82	12.21	12.03	11.95	12.15	11.84
Good	9.88	10.64	10.80	10.96	10.65	10.78	10.62
Medium	8.77	9.12	8.86	9.29	9.09	9.13	9.04
Common	6.98	6.99	6.81	6.80	6.68	6.69	6.82
Canner and cutter	4.53	4.48	4.41	4.34	4.28	4.25	4.38
Light yearling steers and heifers (800 lbs. down), good and prime	10.04	10.33	10.62	10.82	10.74	11.08	10.60
Heifers—							
850 lbs. up—good and choice	8.96	9.22	9.58	9.62	9.32	9.63	9.39
All weights—common and medium	6.61	6.04	6.24	6.27	5.99	6.26	6.24
Cows—							
Good and choice	7.30	7.48	7.15	7.06	6.89	6.72	7.10
Common and medium	4.78	4.56	4.40	4.57	4.43	4.55	4.55
Canner and cutter	3.14	2.99	3.00	2.93	2.77	2.92	2.96
Bulls—							
Good and choice [1]	6.21	6.14	6.15	5.77	5.56	5.74	5.93
Canner to medium (canner and bologna)	4.78	4.14	4.18	3.88	3.64	4.08	4.12
Slaughter calves:							
Medium to choice—							
190 lbs. down	10.14	10.36	10.57	9.82	8.15	9.31	9.72
190–260 lbs	9.07	9.66	9.40	8.96	7.50	8.07	8.78
260 lbs. up	7.33	6.73	6.56	6.35	5.66	6.29	6.49
Cull and common—							
190 lbs. down	6.79	6.60	7.02	6.73	5.76	6.40	6.55
190 lbs. up	5.29	5.07	5.20	5.17	4.18	5.00	4.98
Feeder and stocker cattle and calves:							
Steers—							
Common to choice—750 lbs. up	7.10	7.24	7.26	6.67	6.50	6.64	6.90
Common to choice—750 lbs. down	6.40	6.32	6.38	5.99	6.04	5.97	6.18
Inferior (all weights)	4.16	4.07	4.06	3.80	3.92	3.76	3.96
Cows and heifers—common to choice	4.56	4.39	4.29	4.06	3.77	3.94	4.17
Calves—common to choice							

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Classification of livestock changed July 1, 1923.

[1] Beef yearlings excluded.

TABLE 425.—*Cattle and calves: Monthly average price per 100 pounds, 1923*—Con.

EAST ST. LOUIS.

Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1-June 30.
Beef steers:							
Medium and heavyweight (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	11.81	10.77	10.16	9.97	10.31	10.96	10.66
Good	10.30	9.76	9.47	9.32	9.76	10.21	9.80
Medium	8.49	8.44	8.48	8.44	8.90	9.17	8.65
Common	6.65	6.86	7.19	7.30	7.56	7.31	7.14
Lightweight (1,100 lbs. down)—							
Choice and prime	11.80	10.77	10.16	9.90	10.22	10.78	10.60
Good	10.30	9.66	9.38	9.20	9.58	9.99	9.68
Medium	8.48	8.26	8.33	8.29	8.66	8.90	8.49
Common	6.67	6.68	7.00	7.10	7.31	6.89	6.94
Butcher cattle:							
Heifers, common to choice	7.14	7.28	7.46	7.54	7.87	8.14	7.57
Cows, common to choice	5.40	5.49	5.98	6.14	6.32	5.82	5.86
Bulls, bologna and beef	5.28	5.42	5.68	5.68	5.96	5.58	5.60
Canners and cutters:							
Cows and heifers	2.96	3.14	3.60	3.66	3.62	3.09	3.34
Canner steers	3.46	3.73	4.06	4.12	4.35	3.90	3.94
Veal calves:							
Light to medium weight, medium to choice	9.46	9.89	8.30	7.72	8.17	8.03	8.60
Heavyweight, common to choice	6.61	7.46	6.95	6.69	6.67	6.89	6.88
Feeder steers:							
Heavy (1,000 lbs. up), common to choice	6.74	6.81	7.12	7.34	7.53	7.27	7.14
Light and medium (750 to 1,000 lbs.), common to choice	6.26	6.44	6.75	7.04	7.36	7.02	6.81
Stock cattle:							
Steers, common to choice	5.68	5.63	6.00	6.20	6.47	5.96	5.99
Cows and heifers, common to choice	4.07	4.42	4.74	4.75	4.84	4.40	4.54
Calves—							
Good and choice							
Common and medium							

Classification.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Average July 1-Dec. 31.
Slaughter cattle:							
Beef steers (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	10.96	11.85	12.14	11.85	11.73	11.72	11.71
Good	10.19	10.90	10.97	10.70	10.56	10.54	10.64
Medium	8.96	9.13	9.02	8.87	8.67	8.61	8.88
Common	6.96	6.95	6.86	6.84	6.72	6.66	6.83
Beef steers (1,100 lbs. down)—							
Choice and prime	10.82	11.57	11.92	11.73	11.92	11.84	11.63
Good	9.89	10.59	10.72	10.58	10.80	10.58	10.53
Medium	8.66	8.86	8.78	8.69	8.77	8.66	8.74
Common	6.61	6.31	6.25	6.15	6.26	6.31	6.32
Canner and cutter	4.10	3.78	3.75	3.77	3.93	4.12	3.91
Light yearling steers and heifers (800 lbs. down), good and prime	9.40	10.08	10.57	10.80	10.88	10.61	10.39
Heifers—							
850 pounds up—good and choice	7.90	8.04	8.53	8.75	8.80	8.28	8.38
All weights—common and medium	5.67	5.46	5.67	5.23	4.95	5.25	5.37
Cows—							
Good and choice	6.38	6.46	6.30	5.84	5.92	5.89	6.13
Common and medium	4.62	4.38	4.28	4.20	4.28	4.16	4.32
Canner and cutter	2.85	2.65	2.74	2.69	2.70	2.74	2.73
Bulls—							
Good and choice [1]	6.12	6.00	5.88	5.88	5.66	5.46	5.83
Canner to medium (canner and bologna)	4.08	3.79	3.72	3.64	3.28	3.31	3.64
Slaughter calves:							
Medium to choice—							
190 lbs. down	9.05	8.95	9.80	9.40	8.16	8.80	9.03
190-260 lbs.	7.72	7.02	7.32	7.58	6.29	6.58	7.08
260 lbs. up	6.91	6.41	6.99	6.57	5.51	5.89	6.38
Cull and common—							
190 lbs. down	5.10	4.52	4.50	5.79	4.45	4.63	4.83
190 lbs. up	3.92	3.69	3.62	3.56	3.04	3.10	3.49
Feeder and stocker cattle and calves:							
Steers—							
Common to choice—750 lbs. up	6.75	6.50	6.46	6.04	5.74	5.88	6.23
Common to choice—750 lbs. down	6.30	6.00	5.98	5.72	5.36	5.50	5.81
Inferior (all weights)	3.83	3.56	3.60	3.48	3.49	3.62	3.60
Cows and heifers—common to choice	4.08	3.90	4.09	3.86	3.52	3.52	3.83
Calves—common to choice					5.25		

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Classification of livestock changed July 1, 1923.

[1] Beef yearlings excluded.

TABLE 425.—*Cattle and calves: Monthly average price per 100 pounds, 1923*—Con.

FORT WORTH.

Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Beef steers:	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Medium and heavyweight (1,100 lbs. up)—							
Choice and prime							
Good	8.28	8.00	8.02	7.88	8.00	7.87	8.01
Medium	7.00	6.87	6.98	7.00	7.07	6.77	6.95
Common	5.19	5.12	5.25	5.38	5.50	5.18	5.27
Lightweight (1,100 lbs. down)—							
Choice and prime							
Good	7.98	7.75	7.84	7.75	8.21	8.01	7.92
Medium	6.62	6.50	6.61	6.62	7.14	6.80	6.72
Common	4.80	4.75	4.88	5.00	5.56	5.12	5.02
Butcher cattle:							
Heifers, common to choice	5.32	5.34	5.44	5.50	5.45	5.16	5.37
Cows, common to choice	4.11	4.10	4.29	4.62	4.79	4.52	4.40
Bulls, bologna and beef	3.59	3.57	3.62	3.75	3.70	3.53	3.68
Canners and cutters:							
Cows and heifers	2.27	2.65	2.68	2.74	2.82	2.46	2.60
Canner steers	2.36	2.70	2.68	2.75	2.82	2.56	2.64
Veal calves:							
Light to medium weight, medium to choice	7.27	6.95	7.64	7.88	7.80	7.14	7.45
Heavyweight, common to choice	5.03	5.06	5.52	5.46	5.32	4.94	5.22
Feeder steers:							
Heavy (1,000 lbs. up), common to choice	5.69	5.72	5.75	5.75	5.70	5.30	5.65
Light and medium (750 to 1,000 lbs.), common to choice	5.45	5.47	5.50	5.50	5.50	5.16	5.43
Stock cattle:							
Steers, common to choice	5.13	5.32	5.38	5.36	5.33	4.85	5.23
Cows and heifers, common to choice	3.47	3.55	3.59	3.75	3.70	3.54	3.60
Calves—							
Good and choice	6.02	6.04	6.12	6.12	6.07	5.72	6.02
Common and medium	4.18	4.24	4.25	4.12	3.88	3.78	4.08

Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter cattle:	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Beef steers (1,100 lbs. up)—							
Choice and prime							
Good	7.60	7.36	7.66	7.81	7.79	7.98	7.70
Medium	6.25	6.08	6.29	6.47	6.43	6.88	6.40
Common	4.50	4.48	4.79	5.00	5.14	5.28	4.86
Beef steers (1,100 lbs. down)—							
Choice and prime			8.96	9.05	9.12		
Good	7.25	7.22	7.54	7.60	7.68	8.16	7.58
Medium	5.84	5.82	6.02	6.14	6.20	6.73	6.12
Common	4.12	4.10	4.49	4.68	4.78	5.07	4.54
Canner and cutter	2.38	2.38	2.68	2.89	2.92	3.20	2.74
Light yearling steers and heifers (800 lbs. down), good and prime			8.08	8.26	8.26	8.66	
Heifers—							
850 lbs. up—good and choice	5.50	5.28	5.39	5.56	5.47	6.20	5.57
All weights—common and medium	3.88	3.57	3.62	3.67	3.63	4.02	3.73
Cows—							
Good and choice	4.59	4.40	4.61	4.60	4.32	4.74	4.54
Common and medium	3.38	3.17	3.20	3.17	2.96	3.47	3.22
Canner and cutter	2.15	1.96	2.05	2.07	1.92	2.30	2.08
Bulls—							
Good and choice [1]	3.88	3.88	4.07	4.16	4.08	4.12	4.03
Canner to medium (canner and bologna)	2.38	2.41	2.70	2.63	2.49	2.71	2.55
Slaughter calves:							
Medium to choice—							
190 lbs. down	6.35	6.02	6.11	5.93	5.70	6.17	6.05
190–260 lbs.	5.56	5.56	5.87	5.60	5.36	5.78	5.62
260 lbs. up	4.99	5.10	5.47	5.31	5.03	5.41	5.22
Cull and common—							
190 lbs. down	3.25	3.11	3.26	3.24	3.29	3.62	3.30
190 lbs. up	2.62	2.70	3.14	3.03	2.83	3.22	2.92
Feeder and stocker cattle and calves:							
Steers—							
Common to choice—750 lbs. up	4.25	4.34	4.88	5.12	5.15	5.38	4.85
Common to choice—750 lbs. down	4.25	4.34	4.79	4.96	4.92	5.12	4.73
Inferior (all weights)	2.25	2.40	2.91	3.00	3.00	3.06	2.77
Cows and heifers—common to choice	3.25	3.25	3.25	3.16	2.65	2.94	3.08
Calves—common to choice	4.25	4.28	4.63	4.63	4.20	4.49	4.41

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Classification of livestock changed July 1, 1923.

[1] Beef yearlings excluded.

TABLE 425.—*Cattle and calves: Monthly average price per 100 pounds, 1923*—Con.

KANSAS CITY.

Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Beef steers:							
Medium and heavyweight (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	10.87	10.44	7.87	9.09	10.20	10.83	9.98
Good	9.56	9.21	8.96	8.95	9.54	10.14	9.39
Medium	8.20	8.14	8.13	8.34	8.90	9.22	8.49
Common	6.68	6.94	7.11	7.46	7.90	7.88	7.33
Lightweight (1,100 lbs. down)—							
Choice and prime	10.66	10.22	9.78	9.67	10.08	10.65	10.18
Good	9.35	8.99	8.79	8.86	9.36	9.84	9.20
Medium	7.93	7.87	7.90	8.06	8.50	8.72	8.16
Common	6.32	6.60	6.80	7.06	7.36	7.20	6.89
Butcher cattle:							
Heifers, common to choice	6.27	6.40	6.55	6.69	6.94	7.02	6.64
Cows, common to choice	5.12	5.21	5.53	5.81	5.98	5.73	5.56
Bulls, bologna and beef	4.67	4.76	5.06	5.25	5.47	5.16	5.06
Canners and cutters:							
Cows and heifers	3.05	3.14	3.44	3.53	3.50	3.18	3.31
Canner steers	3.48	3.60	3.88	4.00	4.09	3.84	3.82
Veal calves:							
Light to medium weight, medium to choice	8.95	9.55	8.50	7.58	8.03	7.85	8.41
Heavy weight, common to choice	6.37	6.74	6.37	6.20	6.75	6.48	6.48
Feeder steers:							
Heavy (1,000 lbs. up), common to choice	6.91	7.25	7.38	7.36	7.66	7.90	7.41
Light and medium (750 to 1,000 lbs.), common to choice	6.94	7.22	7.34	7.31	7.57	7.78	7.36
Stock cattle:							
Steers, common to choice	5.46	6.61	6.78	6.81	5.00	6.94	6.43
Cows and heifers, common to choice	4.28	4.44	4.65	4.77	4.74	4.47	4.56
Calves—							
Good and choice	7.12	7.20	7.44	7.50	7.56	7.44	7.38
Common to medium	5.27	5.32	5.48	5.61	5.82	5.57	5.51

Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec	Average July 1–Dec. 31.
Slaughter cattle:							
Beef steers (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	10.83	11.87	11.68	11.34	11.25	11.36	11.39
Good	9.92	10.06	10.16	9.78	9.64	9.88	9.91
Medium	8.90	8.73	8.59	8.20	7.87	8.19	8.41
Common	7.59	7.28	6.96	6.65	6.31	6.41	6.87
Beef steers (1,100 lbs. down)—							
Choice and prime	10.58	11.10	11.40	11.11	11.35	11.48	11.17
Good	9.61	9.76	9.84	9.59	9.68	10.01	9.75
Medium	8.50	8.45	8.38	8.08	7.96	8.32	8.28
Common	6.96	6.64	6.41	6.09	6.00	6.16	6.38
Canner and cutter	4.34	4.12	4.11	4.00	4.00	4.00	4.10
Light yearling steers and heifers (800 lbs. down), good and prime	9.45	9.74	9.89	9.88	10.00	10.14	9.85
Heifers—							
850 lbs. up, good and choice	7.82	7.85	7.80	7.82	7.62	8.04	7.82
All weights—common and medium	5.50	5.54	5.39	5.26	4.88	5.04	5.27
Cows—							
Good and choice	6.55	6.53	6.40	6.25	5.88	5.90	6.25
Common and medium	4.34	4.27	4.28	4.23	3.80	3.92	4.14
Canner and cutter	2.68	2.59	2.66	2.74	2.43	2.66	2.63
Bulls—							
Good and choice [1]	5.65	5.26	5.26	5.00	4.92	4.93	5.17
Canner to medium (canner and bologna	4.08	3.54	3.52	3.27	3.06	3.20	3.44
Slaughter calves:							
Medium to choice—							
190 lbs. down	7.82	8.04	8.02	8.15	7.71	7.75	7.92
190–260 lbs.	7.53	7.42	7.41	7.27	6.75	6.88	7.21
260 lbs. up	6.72	6.30	6.42	6.12	5.62	5.61	6.13
Cull and common—							
190 lbs. down	4.58	4.62	4.68	4.67	4.38	4.50	4.51
190 lbs. up	4.08	3.65	3.62	3.53	3.25	3.17	3.55
Feeder and stocker cattle and calves:							
Steers—							
Common to choice—750 lbs. up	6.77	7.07	7.13	6.61	6.60	6.53	6.78
Common to choice—750 lbs. down	6.40	6.47	6.32	6.06	6.11	6.04	6.23
Inferior (all weights)	3.72	3.75	3.75	3.75	3.75	3.70	3.74
Cows and heifers—common to choice	4.60	4.46	4.38	4.09	3.88	3.98	4.23
Calves—common to choice	6.12	6.12	5.84	5.66	5.58	5.56	5.81

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Classification of livestock changed July 1, 1923.

[1] Beef yearlings excluded.

TABLE 425.—*Cattle and calves: Monthly average price per 100 pounds, 1923*—Con.

OMAHA.

Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Beef steers:							
Medium and heavyweight (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	10.94	10.28	9.74	9.50	9.90	10.38	10.16
Good	9.50	9.24	8.88	8.72	9.30	9.83	9.24
Medium	7.99	8.05	8.05	8.08	8.65	8.84	8.28
Common	6.39	6.67	6.86	7.08	7.69	7.66	7.06
Lightweight (1,100 lbs. down)—							
Choice and prime	10.71	10.14	9.74	9.50	9.79	10.38	10.04
Good	9.33	9.08	8.88	8.72	9.10	9.62	9.12
Medium	7.80	7.87	7.93	7.96	8.29	8.54	8.06
Common	6.11	6.45	6.61	6.84	7.19	7.09	6.72
Butcher cattle:							
Heifers, common to choice	6.67	6.75	6.79	6.80	6.96	7.09	6.84
Cows, common to choice	5.28	5.43	5.60	5.95	6.31	6.29	5.81
Bulls, bologna and beef	4.68	4.96	5.43	5.47	5.84	5.68	5.35
Canners and cutters:							
Cows and heifers	3.28	3.35	3.54	3.77	4.00	3.46	3.57
Canner steers	3.74	3.75	3.97				
Veal calves:							
Light to medium weight, medium to choice	9.05	9.55	9.24	7.96	8.86	7.87	8.76
Heavyweight, common to choice	6.04	6.50	6.24	6.13	6.56	6.05	6.25
Feeder steers:							
Heavy (1,000 lbs. up), common to choice	6.87	7.12	7.06	7.24	7.47	7.64	7.23
Light and medium (750 to 1,000 lbs.), common to choice	6.85	7.00	6.92	7.04	7.15	7.04	7.00
Stock cattle:							
Steers, common to choice	6.15	6.25	6.24	6.37	6.58	6.38	6.32
Cows and heifers, common to choice	4.29	4.38	4.38	4.42	4.66	4.60	4.46
Calves—							
Good and choice	6.95	7.10	7.06	7.11	7.28	7.38	7.15
Common and medium	5.26	5.40	5.41	5.38	5.59	5.75	5.46

Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter cattle:							
Beef steers (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	10.81	11.50	11.80	11.41	11.28	11.52	11.39
Good	9.93	10.18	10.20	9.91	9.74	10.00	9.99
Medium	8.87	8.69	8.55	8.32	8.12	8.28	8.47
Common	7.46	7.13	6.90	6.74	6.56	6.29	6.85
Beef steers (1,100 lbs. down)—							
Choice and prime	10.62	11.23	11.59	11.27	11.50	11.63	11.31
Good	9.69	9.85	9.93	9.77	10.02	10.14	9.90
Medium	8.54	8.41	8.27	8.12	8.26	8.34	8.32
Common	6.94	6.56	6.28	6.12	6.12	6.13	6.36
Canner and cutter		4.21	4.02	4.00	4.00	4.02	4.05
Light yearling steers and heifers (800 lbs. down), good and prime	9.66	9.67	9.66	9.73	10.08	10.29	9.85
Heifers—							
850 lbs. up—good and choice	8.27	8.30	8.14	8.31	8.28	8.61	8.32
All weights—common and medium	5.98	5.82	5.42	5.46	5.28	5.58	5.59
Cows—							
Good and choice	6.87	7.00	6.56	6.32	5.71	5.80	6.38
Common and medium	4.75	4.56	4.18	4.06	3.78	4.25	4.26
Canner and cutter	3.04	2.87	2.72	2.79	2.64	3.01	2.84
Bulls—							
Good and choice [1]	6.02	6.18	5.82	5.53	5.08	5.05	5.61
Canner to medium (canner and bologna)	4.28	4.08	3.70	3.53	3.03	3.24	3.64
Slaughter calves:							
Medium to choice—							
190 lbs. down	8.68	8.19	8.41	8.60	8.30	7.96	8.36
190–260 lbs.	7.54	7.31	7.25	7.07	6.80	6.68	7.11
260 lbs. up	6.78	6.31	6.25	6.16	6.14	5.84	6.25
Cull and common—							
190 lbs. down	5.94	5.25	5.25	5.25	5.10	5.34	5.36
190 lbs. up	5.26	4.69	4.62	4.35	3.99	3.83	4.46
Feeder and stocker cattle and calves:							
Steers—							
Common to choice—750 lbs. up	7.22	7.30	7.32	6.75	6.50	6.54	6.94
Common to choice—750 lbs. down	6.60	6.24	6.28	6.04	6.04	6.18	6.23
Inferior (all weights)	4.49	4.13	4.06	3.88	3.87	3.80	4.04
Cows and heifers—common to choice	4.55	4.56	4.62	4.34	3.81	3.96	4.31
Calves—common to choice	6.36	6.25	6.19	5.80	5.55	5.40	5.92

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Classification of livestock changed July 1, 1923.

[1] Beef yearlings excluded.

TABLE 425.—*Cattle and calves: Monthly average price per 100 pounds, 1923*—Con.

SOUTH ST. PAUL.

Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Beef steers:							
Medium and heavyweight (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime							
Good					8.96	9.38	
Medium	8.26	7.93	7.71	7.98	8.20	8.26	8.06
Common	6.70	6.64	6.69	6.98	7.31	7.04	6.89
Lightweight (1,100 lbs. down)—							
Choice and prime							
Good					8.98	9.38	
Medium	8.26	7.92	7.71	7.98	8.20	8.26	8.06
Common	6.57	6.52	6.56	6.86	7.17	6.92	6.77
Butcher cattle:							
Heifers, common to choice	6.05	6.31	6.51	6.95	7.02	7.39	6.70
Cows, common to choice	5.29	5.33	5.43	5.86	5.98	5.54	5.57
Bulls, bologna and beef	4.66	4.57	4.70	4.78	4.94	4.76	4.74
Canners and cutters:							
Cows and heifers	2.96	3.02	3.19	3.38	3.43	2.82	3.13
Canner steers	3.38	3.50	3.60	4.10	4.21	3.85	3.77
Veal calves:							
Light to medium weight, medium to choice	7.29	7.66	6.57	6.31	6.49	6.55	6.81
Heavyweight, common to choice	5.26	5.65	5.48	5.10	5.00	5.00	5.25
Feeder steers:							
Heavy (1,000 lbs. up), common to choice	6.00	6.21	6.25	6.44	6.54	6.26	6.28
Light and medium (750 to 1,000 lbs.), common to choice	5.79	5.96	6.00	6.19	6.30	6.00	6.04
Stock cattle:							
Steers, common to choice	5.42	5.58	5.62	5.82	5.92	5.57	5.66
Cows and heifers, common to choice	3.88	4.00	4.17	4.44	4.49	3.99	4.16
Calves—							
Good and choice							
Common and medium							

Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter cattle:							
Beef steers (1,100 lbs. up)—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Choice and prime	10.36	11.03	11.51	11.15	11.00	11.07	11.02
Good	9.46	9.83	10.10	9.83	9.75	9.68	9.78
Medium	8.36	8.41	8.13	7.75	7.88	7.98	8.08
Common	6.92	6.80	6.28	5.90	5.88	6.00	6.30
Beef steers (1,100 lbs. down)—							
Choice and prime	10.36	11.03	11.51	11.15	11.00	11.07	11.02
Good	9.46	9.82	10.05	9.83	9.75	9.68	9.76
Medium	8.30	8.16	7.86	7.62	7.75	7.90	7.93
Common	6.67	6.07	5.56	5.26	5.37	5.66	5.76
Canner and cutter	4.13	3.70	3.50	3.28	3.19	3.50	3.55
Light yearling steers and heifers (800 lbs. down), good and prime	9.52	9.45	9.50	9.50	9.56	9.98	9.58
Heifers—							
850 lbs. up—good and choice	8.46	8.29	8.24	8.25	8.15	8.31	8.28
All weights—common and medium	6.05	5.42	5.22	5.00	4.92	5.35	5.33
Cows—							
Good and choice	6.67	6.29	5.99	5.96	6.01	6.06	6.16
Common and medium	4.50	3.92	3.69	3.64	3.74	3.86	3.89
Canner and cutter	2.49	2.51	2.46	2.42	2.42	2.47	2.46
Bulls—							
Good and choice [1]	5.36	4.72	5.06	4.56	4.26	4.50	4.74
Canner to medium (canner and bologna)	3.78	3.38	3.33	3.12	3.06	3.25	3.32
Slaughter calves:							
Medium to choice—							
190 lbs. down	7.03	8.18	8.18	7.90	6.04	6.06	7.58
190–260 lbs	6.53	6.87	6.99	6.90	6.16	6.08	6.59
260 lbs. up	6.16	6.25	5.49	5.50	5.31	5.08	5.63
Cull and common—							
190 lbs. down	4.90	5.17	5.04	5.00	4.62	4.50	4.87
190 lbs. up	3.56	3.79	3.55	3.50	3.06	3.08	3.42
Feeder and stocker cattle and calves:							
Steers—							
Common to choice—750 lbs. up	6.01	6.03	6.43	5.55	5.10	5.17	5.72
Common to choice—750 lbs. down	5.61	5.47	5.71	4.84	4.62	4.67	5.15
Inferior (all weights)	3.69	3.30	3.58	3.33	2.94	2.93	3.30
Cows and heifers—common to choice	3.42	3.34	3.38	3.26	3.02	3.38	3.30
Calves—common to choice	5.25	5.30	5.25	4.97	4.75	4.75	5.04

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

Classification of livestock changed July 1, 1923.

[1] Beef yearlings excluded.

TABLE 426.—*Cattle and calves: Trend of average farm prices and average market prices at Chicago, 1910–1923.*

Calendar year.	Farm price.		Average market price at Chicago.		Price relatives, 1913=100.			
					Farm price.		Market price.	
	Beef cattle, weighted average.	Veal calves, simple average.	Beef cattle, simple average.	Veal calves, simple average.	Beef cattle.	Veal calves.	Beef cattle.	Veal calves.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*				
1910	4.76	6.41	6.83	8.25	90.5	85.7	83.2	81.0
1911	4.45	6.06	6.46	7.91	75.3	81.0	78.0	77.6
1912	5.15	6.45	7.80	8.94	87.1	86.2	95.0	87.7
1913	5.91	7.48	8.21	10.19	100.0	100.0	100.0	100.0
1914	6.24	7.83	8.65	10.10	105.6	104.7	105.4	99.1
1915	6.00	7.63	8.43	10.08	101.5	102.0	102.7	98.9
1916	6.47	8.33	9.33	10.98	109.5	111.4	113.6	107.8
1917	8.16	10.47	11.67	13.78	138.1	140.0	142.1	135.2
1918	9.44	11.88	14.60	15.92	159.7	158.8	177.8	156.2
1919	9.56	12.74	15.45	16.85	161.8	170.3	188.2	165.4
1920	8.32	11.81	13.32	14.58	140.8	157.9	162.2	143.1
1921	5.46	7.87	8.16	9.36	92.4	105.2	99.4	91.9
1922	5.48	7.69	8.82	9.15	92.7	102.8	107.4	89.8
1923	5.57	7.99	9.50	9.42	94.2	106.8	115.7	92.4

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 427.—*Cattle: Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts, 1913–1923.*

Calendar year.	Live steers good to choice, Chicago.	Beef, wholesale.				Beef, retail.											
		Good native steer, Chicago.		Native sides, New York.		Sirloin steak.						Round steak.					
						Chicago.		New York.		Average, leading cities.		Chicago.		New York.		Average, leading cities.	
		Price per pound.	Wholesale as per cent of live steer price.	Price per pound.	Wholesale as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.
	Cents.	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*
1913	8.5	13.0	153	12.5	147	23.2	273	25.9	305	25.4	299	20.2	238	25.0	294	22.3	262
1914	9.0	13.6	151	13.5	150	25.3	283	26.8	298	25.9	288	22.4	249	26.3	292	23.6	262
1915	8.7	12.9	148	12.6	145	25.7	295	26.8	308	25.7	295	22.1	254	26.0	299	23.0	264
1916	9.6	13.8	144	13.4	140	26.8	279	28.1	293	27.3	284	22.6	235	27.4	285	24.5	255
1917	12.8	16.7	130	16.4	128	29.3	229	32.6	255	31.5	246	25.8	202	32.6	255	29.0	227
1918	16.4	22.1	135	20.9	127	35.3	215	40.9	249	38.9	237	32.3	197	42.3	258	36.9	225
1919	17.5	23.3	133	21.5	123	38.3	219	43.9	251	41.7	238	34.3	196	45.7	261	38.9	222
1920	14.5	23.0	159	20.8	143	43.0	297	46.9	323	43.7	301	36.3	250	47.3	326	39.5	272
1921	8.8	16.3	185	14.8	168	38.0	432	42.1	478	38.8	441	31.0	352	41.4	469	34.4	391
1922	9.5	15.0	158	13.8	145	37.2	392	41.1	433	37.4	394	29.1	306	39.6	417	32.3	340
1923	10.0	15.8	158	14.5	145	39.8	398	42.5	425	39.1	391	30.7	307	40.8	408	33.5	335
1923.																	
January	9.8	15.4	157	14.0	143	38.1	389	40.5	413	37.2	380	29.3	299	38.6	394	31.6	322
February	9.4	14.8	157	13.5	144	37.6	400	39.9	424	37.1	395	28.9	307	38.3	407	31.5	335
March	9.3	14.5	156	12.7	137	37.3	401	39.9	429	37.3	401	28.8	310	38.1	410	31.7	341
April	9.0	14.5	161	13.9	154	38.2	424	40.4	449	37.9	421	29.4	327	38.7	430	32.3	359
May	9.5	14.5	153	14.5	153	38.5	405	41.4	436	38.7	407	29.6	312	39.6	417	33.0	347
June	10.3	15.1	147	14.3	139	39.3	382	43.4	421	40.1	389	30.2	293	40.9	397	34.5	335
July	10.6	15.8	149	16.0	151	40.5	382	45.3	427	41.0	387	31.6	298	43.7	412	35.5	335
August	10.9	15.8	145	14.9	137	41.6	382	45.5	417	41.1	377	32.3	295	43.7	401	35.5	326
September	10.7	17.5	164	14.8	138	43.0	402	45.0	421	41.1	384	32.7	306	43.5	407	35.5	332
October	10.4	17.5	168	15.1	145	41.6	400	44.3	426	40.0	385	32.3	311	42.8	412	34.4	331
November	9.8	17.5	179	14.2	145	40.7	415	42.6	435	38.9	397	31.7	323	41.2	420	33.1	338
December	9.8	17.1	174	16.6	169	40.9	417	42.3	432	38.6	394	31.6	322	40.6	414	32.9	336

TABLE 427.—*Cattle: Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts, 1913–1923*—Continued.

Calendar year.	Beef, retail—Continued.											
	Chuck roast.						Rib roast.					
	Chicago.		New York.		Average, leading cities.		Chicago.		New York.		Average, leading cities.	
	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.
	Cents.	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*
1913	15.4	181	16.0	188	16.0	188	19.5	229	21.8	256	19.8	233
1914	16.9	188	16.8	187	16.7	186	20.7	230	22.1	246	20.4	227
1915	16.7	192	16.5	190	16.1	185	21.3	245	22.2	255	20.1	231
1916	16.6	173	17.3	180	17.1	178	21.9	228	23.2	242	21.2	221
1917	20.3	159	21.3	166	20.9	163	24.1	188	27.4	214	24.9	195
1918	25.9	158	28.5	174	26.6	162	29.7	181	35.3	215	30.7	187
1919	26.7	153	29.9	171	27.0	154	31.4	179	39.1	223	32.5	186
1920	25.9	179	28.9	199	26.2	181	33.7	232	40.5	279	33.2	229
1921	20.7	235	23.1	262	21.2	241	30.2	343	36.4	414	29.1	331
1922	19.1	201	21.4	225	19.7	207	28.8	303	35.3	372	27.6	291
1923	19.9	199	22.4	224	20.2	202	30.2	302	36.3	363	28.4	284
1923.												
January	19.4	198	21.5	219	19.6	200	29.3	299	35.1	358	27.5	281
February	18.1	200	21.2	226	19.5	207	29.2	311	34.7	369	27.5	293
March	18.9	203	21.2	228	19.6	211	29.1	313	34.9	375	27.6	297
April	19.5	217	21.8	242	19.7	219	29.8	331	35.1	390	27.8	309
May	19.5	205	21.6	227	19.9	209	30.1	317	35.8	377	28.2	297
June	19.9	193	22.2	216	20.4	198	29.4	285	36.7	356	28.8	280
July	19.5	184	23.2	219	20.8	196	30.2	285	38.1	359	29.3	276
August	19.5	179	23.2	213	20.8	191	29.9	274	37.5	344	29.2	268
September	21.0	196	23.3	218	21.0	196	31.4	293	37.3	349	29.4	275
October	21.1	203	23.5	226	20.8	200	31.6	304	36.9	355	28.9	278
November	21.0	214	23.0	235	20.4	208	31.3	319	36.5	372	28.3	289
December	21.1	215	23.1	236	20.4	208	31.3	319	36.6	373	28.3	289

Division of Statistical and Historical Research. All prices from Bureau of Labor Statistics.

TABLE 428.—*Cattle and calves: Monthly slaughter under Federal inspection, 1907–1923.*

CATTLE.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1907	717, 935	569, 641	555, 476	634, 541	620, 114	588, 465	640, 535	667, 827	696, 271	801, 110	595, 692	545, 758	7, 633, 365
1908	642, 632	527, 369	519, 851	463, 445	490, 623	525, 134	563, 403	640, 332	767, 698	821, 193	680, 616	636, 964	7, 279, 260
1909	586, 542	489, 905	550, 719	508, 267	536, 101	543, 597	608, 030	652, 172	782, 309	892, 348	798, 967	764, 850	7, 713, 807
1910	632, 131	527, 361	599, 076	532, 904	551, 179	620, 862	614, 962	678, 668	795, 525	831, 406	779, 527	643, 999	7, 807, 600
1911	626, 060	535, 853	562, 077	499, 422	599, 084	614, 447	591, 317	719, 510	691, 720	828, 316	745, 810	605, 480	7, 619, 096
1912	674, 995	515, 056	563, 882	522, 278	562, 506	511, 135	507, 695	631, 623	643, 617	808, 361	690, 973	620, 457	7, 252, 578
1913	621, 744	489, 842	483, 693	554, 709	546, 781	556, 321	592, 959	582, 081	656, 410	701, 402	601, 937	590, 482	6, 978, 361
1914	555, 164	498, 991	476, 406	474, 177	473, 806	490, 302	505, 244	518, 165	650, 427	743, 686	658, 189	682, 180	6, 756, 737
1915	572, 748	466, 122	551, 991	507, 442	534, 457	573, 851	596, 142	590, 302	641, 411	736, 149	702, 134	680, 646	7, 153, 395
1916	622, 507	549, 956	597, 059	475, 566	564, 207	648, 209	562, 448	742, 534	790, 737	941, 049	971, 801	844, 385	8, 310, 458
1917	822, 932	662, 776	647, 251	654, 336	815, 071	844, 168	783, 559	865, 883	957, 253	1, 195, 587	1, 098, 796	1, 002, 540	10, 350, 152
1918	895, 275	784, 834	828, 216	914, 899	781, 755	829, 690	1, 019, 982	987, 237	1, 142, 754	1, 251, 041	1, 233, 081	1, 159, 785	11, 828, 549
1919	1, 119, 200	701, 353	640, 288	622, 123	720, 648	644, 463	854, 797	859, 409	855, 292	1, 073, 220	1, 040, 074	960, 181	10, 091, 084
1920	832, 231	630, 995	683, 139	637, 575	626, 304	656, 602	661, 172	685, 763	825, 484	843, 136	858, 946	667, 344	8, 608, 691
1921	689, 506	526, 177	620, 936	590, 943	569, 979	640, 186	579, 028	680, 419	689, 043	749, 756	686, 115	586, 192	7, 608, 280
1922	641, 513	569, 153	673, 701	589, 916	702, 203	724, 418	697, 303	761, 125	796, 377	883, 949	859, 413	778, 736	8, 677, 807
1923	745, 109	633, 710	687, 634	696, 757	762, 461	726, 962	724, 896	820, 514	809, 810	952, 795	845, 618	756, 250	9, 162, 516

CALVES.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1907	128, 178	99, 283	122, 451	205, 410	224, 405	203, 916	220, 697	205, 840	197, 811	186, 620	126, 141	103, 635	2, 024, 387
1908	116, 868	87, 891	137, 120	196, 976	205, 225	210, 692	192, 034	184, 719	187, 400	180, 317	142, 560	116, 471	1, 958, 273
1909	134, 800	95, 221	149, 150	200, 106	228, 192	235, 741	213, 217	195, 623	205, 468	205, 064	171, 288	155, 147	2, 189, 017
1910	132, 412	116, 899	188, 441	221, 557	251, 746	237, 937	198, 425	206, 000	197, 135	187, 567	168, 323	131, 845	2, 238, 287
1911	135, 440	120, 845	180, 386	218, 434	243, 247	232, 261	198, 471	206, 971	184, 421	179, 838	155, 135	128, 094	2, 183, 543
1912	152, 064	126, 432	179, 813	244, 700	258, 331	228, 659	201, 085	192, 355	189, 785	193, 250	162, 837	148, 643	2, 277, 954
1913	139, 281	117, 987	141, 551	212, 374	204, 723	194, 613	182, 000	149, 292	158, 518	156, 562	124, 004	121, 509	1, 902, 414
1914	122, 486	99, 865	145, 226	185, 619	183, 052	186, 771	153, 448	129, 359	129, 637	135, 009	107, 279	119, 211	1, 696, 962
1915	108, 642	96, 096	156, 205	198, 515	205, 039	197, 462	161, 997	141, 289	138, 557	148, 061	141, 400	125, 439	1, 818, 702
1916	129, 231	143, 262	189, 472	233, 412	267, 422	228, 480	177, 605	206, 783	185, 928	203, 905	217, 370	184, 533	2, 367, 403
1917	203, 250	181, 581	211, 501	286, 191	344, 598	276, 501	276, 710	254, 711	271, 514	339, 324	280, 910	215, 930	3, 142, 721
1918	210, 444	192, 769	259, 854	351, 387	357, 353	312, 171	354, 721	273, 597	316, 816	306, 096	272, 076	249, 109	3, 456, 393
1919	294, 812	209, 834	295, 388	383, 414	391, 304	327, 060	399, 966	318, 769	317, 984	374, 619	344, 238	311, 639	3, 969, 027
1920	305, 125	283, 052	390, 053	382, 420	368, 614	431, 079	342, 765	332, 349	347, 578	314, 791	315, 971	244, 573	4, 058, 370
1921	282, 043	253, 692	360, 410	365, 541	366, 798	369, 696	324, 046	303, 796	321, 193	309, 136	292, 172	259, 045	3, 807, 568
1922	288, 487	279, 359	391, 439	365, 323	401, 340	388, 919	329, 445	344, 968	353, 095	382, 837	347, 711	308, 646	4, 181, 569
1923	351, 382	296, 698	367, 979	400, 322	466, 792	387, 905	378, 513	402, 643	338, 093	416, 388	370, 070	323, 538	4, 500, 323

Bureau of Animal Industry.

TABLE 429.—*Beef: Cold-storage holdings in United States, 1916–1923.*

Year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1916	147,617	153,118	151,912	144,089	112,045	90,349	74,024	77,456	76,753	87,972	122,828	196,106
1917	239,743	226,800	207,453	184,794	147,800	133,838	145,033	141,130	130,743	150,468	211,254	273,989
1918	354,814	330,907	313,689	302,121	241,942	214,888	176,606	209,027	215,125	223,181	253,652	262,049
1919	335,085	330,324	296,539	252,415	212,407	191,002	191,883	190,222	197,595	208,571	221,791	258,858
1920	298,864	268,752	260,147	231,937	200,788	157,271	121,652	101,066	89,721	78,055	89,015	112,166
1921	142,813	142,891	146,409	138,345	122,188	109,553	96,220	84,091	67,334	59,822	63,486	80,333
1922	84,808	78,295	73,783	69,516	64,507	56,352	50,706	47,031	48,291	53,572	67,814	95,628
1923	116,255	114,113	100,591	90,502	78,535	65,023	57,220	45,893	46,041	48,187	63,421	93,166

Division of Statistical and Historical Research.

TABLE 430.—*Cattle: Monthly statement of the livestock and meat situation, 1923.*

CATTLE, CALVES, BEEF, AND VEAL.

Item.	Unit.	Jan.	Feb.	Mar.	Apr.	May.	June.
Inspected slaughter:							
Cattle	Thousands.	745	634	688	697	762	727
Calves	do	351	297	368	400	467	388
Average live weight:							
Cattle	Pounds	980	974	973	971	950	955
Calves	do	168	163	149	142	146	162
Average dressed weight:							
Cattle	do	529	534	536	539	530	525
Calves	do	100	97	88	82	82	94
Total dressed weight (carcass):							
Beef	1,000 lbs	394,192	338,103	368,599	375,378	403,975	382,004
Veal	do	34,970	28,088	32,437	32,850	38,394	36,277
Storage first of month:							
Fresh beef	do	91,805	89,272	75,604	65,292	54,522	41,207
Cured beef	do	24,450	24,841	24,987	25,210	24,013	23,816
Exports: [1]							
Fresh beef and veal	do	357	386	368	161	390	213
Cured beef	do	1,205	1,929	2,312	1,937	1,612	2,167
Canned beef	do	168	253	104	117	238	171
Oleo oil and stearin	do	10,208	8,043	11,523	8,962	9,736	9,174
Tallow	do	1,468	1,320	1,714	1,616	2,440	4,427
Imports:							
Fresh beef and veal	do	669	565	947	1,590	1,485	1,058
Receipts, cattle and calves [2]	Thousands	1,877	1,427	1,502	1,670	1,900	1,629
Stocker and feeder shipments [3]	do	281	210	199	233	300	234
Prices per 100 pounds:							
Cattle—							
Average cost for slaughter	Dollars	6.58	6.89	7.19	7.51	7.82	7.90
Calves—							
Average cost for slaughter	do	8.51	9.34	8.80	7.98	8.97	8.24
At Chicago—							
Cattle, good steers	do	10.30	9.80	9.58	9.39	9.71	10.10
Veal calves	do	10.08	10.63	9.32	8.68	9.51	9.31
At eastern markets—							
Beef carcasses, good grade	do	14.47	14.06	13.74	14.12	15.42	16.41
Veal carcasses, good grade	do	18.14	18.07	16.45	15.97	16.68	16.09
Cattle on farms Jan. 1	Thousands	67,240					

TABLE 430.—*Cattle: Monthly statement of the livestock and meat situation, 1923*—Continued.

CATTLE, CALVES, BEEF AND VEAL—Continued.

Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Inspected slaughter:								
Cattle	Thousands.	725	820	810	953	846	756	9,163
Calves	do	378	403	338	416	370	324	4,500
Average live weight:								
Cattle	Pounds	942	933	939	940	934	952	[3] 953
Calves	do	177	196	204	200	189	181	[3] 173
Average dressed weight:								
Cattle	do	509	504	501	496	502	499	[3] 516
Calves	do	102	110	112	111	109	104	[3] 99
Total dressed weight (carcass):								
Beef	1,000 lbs.	368,733	413,367	405,966	472,805	424,898	377,346	4,725,366
Veal	do	38,449	44,254	37,870	46,294	40,182	33,703	444,368
Storage first of month:								
Fresh beef	do	34,385	24,112	24,625	27,590	43,772	71,024	[4] 53,601
Cured beef	do	22,835	21,781	21,416	20,597	19,649	22,142	[4] 22,978
Exports: [1]								
Fresh beef and veal	do	202	367	280	232	267	256	3,479
Cured beef	do	2,061	1,551	2,854	2,210	1,804	1,460	23,042
Canned beef	do	174	92	132	122	60	103	1,734
Oleo oil and stearin	do	7,080	11,734	8,752	9,010	7,199	6,299	107,720
Tallow	do	6,135	5,195	3,273	3,209	3,262	1,811	35,876
Imports:								
Fresh beef and veal	do	1,650	1,932	3,542	3,174	1,387	1,257	19,356
Receipts, cattle and calves [2]	Thousands.	1,903	2,214	2,295	2,802	2,182	1,810	23,211
Stocker and feeder shipments [2]	do	223	480	631	785	624	353	4,558
Prices per 100 pounds:								
Cattle—								
Average cost for slaughter	Dollars	7.26	7.03	6.59	6.01	5.64	6.23	[3] 6.82
Calves—								
Average cost for slaughter	do	8.60	7.53	7.30	6.94	6.39	7.19	[3] 7.86
At Chicago—								
Cattle, good steers	do	10.04	10.76	10.88	10.93	10.62	10.68	[4] 10.23
Veal calves	do	9.60	10.01	9.98	9.39	7.82	8.69	[4] 9.42
At eastern markets—								
Beef carcasses, good grade	do	17.32	17.84	17.90	16.76	15.71	15.95	[4] 15.81
Veal carcasses, good grade	do	16.96	17.74	19.18	18.27	15.52	15.80	[4] 17.08

Division of Statistical and Historical Research.

Inspected slaughter from reports of Bureau of Animal Industry. Weights and storage holdings from reports of Division of Statistical and Historical Research; receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division, and number on farm from Division of Crop and Livestock Estimates. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Including reexports.
[2] Public stockyards.
[3] Weighted average.
[4] Simple average, not total.

TABLE 431.—*Beef products:*[1] *Exports, all products combined, United States, 1910–1924.*

Year ending June 30.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	35,891	25,898	28,365	26,677	21,819	22,987	16,703	19,016	23,778	19,905	18,518	23,319	282,876
1910–11	18,090	18,820	10,146	15,398	18,227	15,598	16,540	16,265	23,412	30,692	40,030	32,904	262,128
1911–12	29,171	25,841	25,130	21,002	14,962	15,373	14,266	15,739	19,203	19,838	15,967	13,804	230,296
1912–13	16,754	15,574	10,871	10,518	8,068	8,908	12,863	13,657	16,424	14,203	15,686	19,971	163,497
1913–14	15,388	13,280	11,895	10,670	10,778	10,361	10,499	9,283	11,073	14,181	15,326	13,221	145,955
1914–15	12,410	10,960	17,131	16,495	31,587	18,895	32,879	35,308	41,125	49,961	40,190	71,340	378,281
1914–16	50,154	43,166	39,404	28,930	36,702	42,155	21,461	28,422	20,378	33,361	35,105	53,830	439,068
1916–17	28,242	24,679	25,783	36,024	31,724	26,908	32,680	25,932	35,895	51,974	51,950	33,296	405,087
1917–18	19,911	42,278	31,773	17,737	10,743	36,443	43,475	31,802	87,199	72,882	96,982	92,150	583,465
1918–19	53,583	69,217	49,124	43,523	83,803	49,504	42,078	30,685	27,164	39,559	28,990	43,964	561,194
1919–20	25,496	28,184	25,400	45,744	28,663	19,711	30,576	20,497	17,635	29,852	24,925	27,861	324,544
1920–21	18,716	9,387	10,530	15,180	14,088	14,999	24,767	14,523	12,626	14,625	15,911	13,065	178,417
1921–22	18,019	18,496	18,568	12,772	10,044	9,309	9,109	12,400	17,810	13,735	19,155	19,873	179,350
1922–23	15,271	13,751	13,832	13,165	14,554	10,778	12,537	11,415	15,144	12,149	13,647	14,941	161,184
1923–24	14,229	18,179	14,997	14,205	12,086								

Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.

[1] These figures include fresh, canned, pickled, and other cured beef, tallow, and oleo oil.

TABLE 432.—*Beef, fresh: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	France.	Italy.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Newfoundland and Labrador.	Bermuda.	Panama.	Cuba.	Other countries.	Grand total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10		86	70,795	5	70,886	136	4	394	4,042	95	173	75,730
1910–11		1	37,258	42	37,301	248	5	561	4,221	42	133	42,511
1911–12		14	8,872	18	8,904	585	12	176	5,401	45	141	15,264
1912–13			127	22	149	640	20	380	5,935	125	113	7,362
1913–14				5	5	254		483	5,534	38	80	6,394
1914–15	99,620	10,472	54,497	31	164,620	545	82	656	3,707	533	298	170,441
1915–16	49,100	47,888	117,409	241	214,638	3,192	111	885	1,505	53	10,830	231,214
1916–17	38,042	13,066	125,688	576	177,372	17,771	263	1,327	235	58	151	197,177
1917–18	36,927	8,567	285,789		331,283	37,350	329	510	144	203	214	370,033
1918–19	26,629	19,085	272,129	930	318,773	3,019	20	932	257	201	9,003	332,205
1919–20	329	3,610	9,323	134,931	148,193	2,918	198	1,020	84	314	834	153,561
1920–21	401		3,140	4,028	7,569	695		1,143	198	515	10,964	21,084
1921–22			1,044	346	1,390	128	82	1,116	236	176	865	3,993
1922–23	4		1,464	271	1,739	119	7	898	210	285	819	4,077

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of Bureau of Foreign and Domestic Commerce.

TABLE 433.—*Beef, pickled and other cured: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	Belgium.	France.	Germany.	Italy.	Netherlands.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Newfoundland and Labrador.	Other countries.	Grand total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	2,140	174	4,068	155	629	10,457	2,353	19,976	1,336	5,074	10,485	36,871
1910–11	1,843	171	4,581	54	793	10,263	2,749	20,454	1,818	5,821	12,191	40,284
1911–12	1,829	124	4,616	42	749	8,747	3,383	19,490	1,752	5,077	11,769	38,088
1912–13	554	34	3,081	2	468	5,930	2,253	12,322	712	3,807	9,016	25,857
1913–14	556	28	1,758		276	4,113	1,036	7,767	1,331	4,936	9,232	23,266
1914–15	1,908	15	379	97	2,368	10,994	3,180	18,941	1,659	4,331	6,944	31,875
1915–16	4,546	133	(1)	499	96	12,003	3,570	20,847	5,101	5,027	7,140	38,115
1916–17	19,987	312		5	4,987	7,490	2,925	35,706	9,395	6,803	6,150	58,054
1917–18	31,236	60		600		4,205	5,739	41,840	2,623	5,505	4,500	54,468
1918–19	20,596	1,937		3,496		3,995	5,940	35,964	1,603	4,251	3,248	45,066
1919–20	1,962	198	3,189	408	3,079	5,336	4,619	18,791	2,255	6,214	5,124	32,384
1920–21	702	25	1,166	83	1,024	4,115	457	7,572	1,732	5,516	8,493	23,313
1921–22	693	89	954	5	178	3,513	4,084	9,516	1,080	6,942	9,236	26,774
1922–23	364	49	463		191	3,085	2,113	6,265	1,461	6,627	9,832	24,185

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of the Bureau of Foreign and Domestic Commerce. [1] Less than 500 pounds.

TABLE 434.—*Beef, canned: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	Belgium.	France.	Italy.	Netherlands.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Newfoundland and Labrador.	Philippine Islands.	Other countries.	Grand total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	406	226	22	298	9,300	193	10,445	205	136	540	3,479	14,805
1910–11	283	78	10	210	6,292	27	6,900	41	118	200	3,566	10,825
1911–12	286	107	12	241	5,743	107	6,556	123	236	1,180	2,931	11,023
1912–13	178	119	4	253	3,117	188	3,859	111	26	206	2,038	6,840
1913–14	381	40	4	56	1,194	65	1,740	63	40	52	1,570	3,465
1914–15	28	6,440	965	68	64,701	1,359	73,561	72	13	143	1,454	75,243
1915–16		6,508	1,968		38,205	2,632	49,313	35	70	56	1,330	50,804
1916–17		17,653	188		40,218	57	58,116	7,571	160	190	1,490	67,536
1917–18		30,417	17,699		46,375	259	94,750	1,118	261	169	1,045	97,343
1918–19	6,461	19,458	45,636	1,341	25,289	8,573	106,758	339	249	125	989	108,460
1919–20	959	187	397	1,038	9,718	16,677	28,976	461	262	278	1,157	31,134
1920–21	(1)	(1)	1	(1)	1,996	6,206	8,203	331	18	113	2,098	10,763
1921–22	(1)	76		1	2,463	53	2,593	174	47	95	839	3,748
1922–23	2	(1)			728	64	794	94	65	298	1,050	2,301

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and reports of the Bureau of Foreign and Domestic Commerce. [1] Less than 500 pounds.

TABLE 435.—*Beef, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909–1922.*

Calendar year.	Imports.			Exports.								
	France.	Germany.	United Kingdom.	Denmark.	Netherlands.	United States.	Canada.	Argentina.	Brazil.	Uruguay.	Australia.	New Zealand.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909	[1] 3,257	26,144	687,736	32,118	36,916	93,742	.....	464,460	.....	12,524	71,131	54,590
1910	[1] 3,783	34,815	785,736	35,659	34,504	55,539	.....	559,325	.....	20,720	109,421	57,093
1911	[1] 1,267	39,460	824,443	26,302	32,542	28,782	874	689,674	.....	16,933	108,774	27,307
1912	[1] 2,042	78,838	896,652	56,865	38,036	9,026	815	755,849	.....	44,847	142,186	30,803
1913	[1] 7,114	66,524	1,030,771	32,826	32,915	[2] 28,972	7,584	807,388	.....	109,268	218,911	30,636
1914	28,032	.....	900,592	36,702	29,097	[2] 222,897	15,558	813,427	.....	153,016	202,056	69,927
1915	379,988	.....	933,389	48,884	44,563	144,224	27,544	799,694	18,770	215,115	114,055	86,477
1916	458,586	.....	789,826	34,220	33,297	142,204	41,609	942,907	74,209	157,568	242,040	112,071
1917	412,310	.....	681,796	35,370	3,735	194,347	69,713	870,458	146,500	150,522	180,222	99,740
1918	473,894	.....	844,055	21,337	42	491,002	124,101	1,092,631	133,397	106,247	119,938	81,960
1919	501,110	.....	721,287	17,730	[2] 343	135,965	105,710	883,452	113,831	176,019	120,940	86,991
1920	286,018	143,268	1,032,708	38,070	[2] 8,486	39,467	62,044	917,784	134,255	215,181	179,618	84,883
1921	107,764	26,228	1,241,744	16,496	[2] 45,488	[2] 22,037	32,167	859,578	129,689	.....	124,158	102,691
1922	69,551	56,448	1,116,939	45,038	[2] 27,203	[2] 32,767	26,115	907,771	71,226	.....	152,856	57,759

Division of Statistical and Historical Research.

[1] Net exports. [2] Net imports.

DAIRY PRODUCTS.

TABLE 436.—*Dairy products: Weighted average price and value on farms, calendar years, 1919–1923.*

Product.	Unit.	Price per unit.					Value.				
		1919	1920	1921	1922	1923	1919	1920	1921	1922	1923
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*
Milk sold [1]	Gallon	29.24	30.10	22.19	19.09	22.36	1,041,236	1,033,008	836,868	721,677	910,723
Milk consumed on farm [1]	do	29.24	30.10	22.19	19.09	22.36	817,938	878,062	730,504	635,573	784,836
Total whole milk [1]	Gallon	29.24	30.10	22.19	19.09	22.36	1,859,174	1,911,070	1,567,432	1,357,250	1,695,559
Butter made	Pound	50.35	54.25	37.16	35.23	40.38	344,877	366,174	241,560	220,187	246,318
Cheese made	do	36.00	37.06	27.32	23.50	25.17	2,376	2,334	1,639	1,175	1,183
Cream sold [2]	Gallon	136.00	140.00	103.20	88.90	111.80	109,359	116,588	80,579	70,274	97,721
Butterfat sold	Pound	57.00	58.68	43.26	37.22	40.00	398,003	404,384	364,180	344,285	379,200
Buttermilk	100 lbs.	77.65	69.10	28.35	27.26	40.81	13,402	11,754	4,644	4,292	6,273
Whey	do	38.83	34.55	14.18	13.63	20.405	231	196	77	61	85
Skim milk from butter made, cream sold, and butterfat sold	do	77.65	69.10	28.35	27.25	40.81	233,012	205,480	91,700	92,931	139,537
Total							2,960,434	3,017,980	2,351,809	2,090,455	2,565,877

Division of Crop and Livestock Estimates.

[1] Includes milk equivalent of cream sold for household use.
[2] For cream powder and ice cream.

TABLE 437.—*Milk: Production and uses in the United States, 1919–1922.*

Purpose for which milk is used.	Calendar year.							
	1919				1920			
	Whole milk used.	Per cent of total milk.	Milk used per pound of product.	Products manufactured.	Whole milk used.	Per cent of total milk.	Milk used per pound of product.	Product manufactured.
	Million pounds.	*Per cent.*	*Pounds.*	*Million pounds.*	*Million pounds.*	*Per cent.*	*Pounds.*	*Million pounds.*
Butter:								
Creamery	18,375.0	20.404	21.0	875.0	18,135.1	20.226	21.0	863.6
Farm	14,385.0	15.973	21.0	685.0	14,175.0	15.810	21.0	675.0
Cheese, all kinds	4,200.0	4.664	10.0	420.0	3,624.3	4.042	10.0	362.4
Milk:								
Condensed and evaporated	4,813.0	5.344	2.5	1,925.0	3,945.0	4.400	2.5	1,578.0
Powdered	72.0	.080	8.0	9.0	82.7	.092	8.0	10.3
Malted	40.0	.045	2.2	18.0	43.4	.048	2.2	19.7
Sterilized, canned	4.5	.005	1.0	4.5	5.6	.006	1.0	5.6
Chocolate					60.0	.067		
Cream, powdered	12.0	.013	19.0	.7	5.9	.007	19.0	.3
Ice cream	3,450.0	3.831	[1] 13.75	[2] 230.0	3,575.0	3.987	[1] 13.75	[2] 260.0
Total milk for manufacture	45,351.5	50.359			43,652.0	48.685		
Milk accounted for otherwise:								
Household purposes	38,619.0	42.882			39,090.0	43.600		
Fed to calves	3,500.0	3.886			4,202.0	4.688		
Waste, loss, and unspecified	2,587.0	2.873			2,713.3	3.027		
Total milk produced	90,057.5	100.000			89,657.3	100.000		

	1921				1922			
Butter:								
Creamery	22,153.7	22.408	21.0	1,054.9	24,223.8	23.619	21.0	1,153.5
Farm	13,650.0	13.807	21.0	650.0	13,125.0	12.797	21.0	625.0
Cheese, all kinds	3,558.4	3.599	10.0	355.8	3,749.8	3.656	10.0	375.0
Milk:								
Condensed and evaporated	3,660.4	3.703	2.5	1,464.2	3,578.4	3.489	2.5	1,431.3
Powdered	33.9	.034	8.0	4.2	44.8	.044	8.0	5.6
Malted	34.4	.035	2.2	15.7	30.0	.029	2.2	13.7
Sterilized, canned	5.1	.005	1.0	5.1	.3		1.0	.3
Chocolate	40.0	.041			100.0	.098		
Cream, powdered	2.5	.002	19.0	.1	2.2	.002	19.0	.1
Ice cream	3,355.0	3.396	[1] 13.75	[2] 244.0	3,623.4	3.533	[1] 13.75	[2] 263.5
Total milk for manufacture	46,493.4	47.030			48,477.7	47.267		
Milk accounted for otherwise:								
Household purposes	45,143.0	45.660			46,672.6	45.507		
Fed to calves	4,260.0	4.310			4,335.0	4.226		
Waste, loss, and unspecified	2,965.9	3.000			3,076.9	3.000		
Total milk produced	98,862.3	100.000			102,562.2	100.000		

Division of Statistical and Historical Research. Compiled from data of Division of Dairy and Poultry Products.

[1] Milk per gallon of ice cream.
[2] Gallons.

TABLE 438.—*Dairy products and oleomargarine: Production, calendar years, 1918–1922.*

Product.	1918		1919		1920		1921		1922	
	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.
		1,000 lbs.		*1,000 lbs.*		*1,000 lbs.*		*1,000 lbs.*		*1,000 lbs.*
Creamery butter	4,118	818,175	3,742	868,125	3,447	863,577	3,463	1,054,938	3,497	1,153,515
Whey butter (made from whey cream)	440	4,544	412	5,782	314	3,155	285	2,176	235	2,291
Renovated or process butter	36	19,257	17	12,189	12	7,530	10	5,877	9	4,448
American cheese:										
Whole milk	2,485	253,634	2,266	295,144	1,820	254,774	1,819	261,727	1,808	282,806
Part skim	141	8,313	91	6,854	50	4,467	13	1,455	20	2,164
Full skim	112	6,110	101	7,256	78	6,458	23	1,733	33	2,500
Swiss cheese (including block)	367	19,363	339	21,602	270	20,430	290	22,678	290	19,983
Brick and Munster cheese	592	41,377	529	38,776	514	44,126	406	42,073	438	37,194
Limburger cheese	210	8,467	167	7,844	125	7,503	100	7,035	104	7,383
Cream and Neufchatel cheese	67	5,862	61	5,639	40	7,001	35	9,279	38	9,936
All Italian varieties of cheese	66	4,835	64	4,391	41	4,779	35	3,793	34	2,627
All other varieties of cheese	123	8,986	94	11,733	76	12,383	48	6,065	51	5,387
Total cheese (not including cottage, pot, and bakers')	------	356,947	------	399,239	------	362,521	------	355,838	------	369,980
Cottage, pot, and bakers' cheese	479	28,350	489	31,614	357	29,887	329	27,316	363	32,389
Condensed milk (sweetened):										
Case goods—										
Skimmed	31	8,258	30	7,468	15	7,700	7	3,861	8	3,915
Unskimmed	104	409,449	104	573,044	75	340,391	59	199,985	49	230,456
Bulk goods—										
Skimmed	126	47,075	118	65,377	111	84,223	85	66,051	92	76,049
Unskimmed	108	36,969	101	38,394	58	23,524	43	22,324	46	30,292
Evaporated milk (unsweetened):										
Case goods—										
Skimmed	27	5,160	18	3,626	9	5,526	3	1,405	4	3,574
Unskimmed	161	1,002,874	156	1,194,496	130	979,873	136	1,028,172	132	949,909
Bulk goods—										
Skimmed	140	55,314	133	71,039	118	64,304	113	69,220	114	67,066
Unskimmed	140	109,799	126	77,514	93	72,474	92	73,145	78	70,088
Total condensed and evaporated milk	------	1,674,898	------	2,030,958	------	1,578,015	------	1,404,163	------	1,431,349
Evaporated, part or full skimmed modified with foreign fat:										
Case goods	19	50,619	11	62,262	12	84,044	15	59,050	14	38,538
Bulk goods	10	3,861	10	2,733	6	2,517	7	5,873	4	1,915
Sterilized milk (canned same as condensed)	16	2,613	14	4,421	8	5,623	5	5,074	5	330
Condensed or evaporated buttermilk	31	12,041	25	24,282	5	32,539	24	29,314	36	44,343
Dried or powdered buttermilk	14	4,951	15	5,279	19	5,704	24	7,708	22	9,007
Powdered whole milk	23	4,006	20	9,042	19	10,334	15	4,242	18	5,599
Powdered skimmed milk	57	26,202	55	34,945	56	41,893	50	38,546	53	40,617
Powdered cream	10	621	6	607	5	309	3	130	4	118
Dried casein (skim-milk product)	156	10,936	136	13,685	85	11,441	73	8,066	74	6,907
Dried casein (buttermilk product)	21	403	17	722	3	85	2	10	1	20
Malted milk	19	15,623	11	17,436	8	19,715	7	15,552	7	13,659
Milk sugar (crude)	28	3,291	24	6,616	21	5,582	9	2,890	7	2,191
Ice cream of all kinds (gallons)	2,983	125,642	2,758	133,056	2,427	148,298	2,642	147,949	2,673	161,609

TABLE 438.—*Dairy products and oleo margarine: Production, calendar years, 1918–1922*—Continued.

Product.	1918		1919		1920		1921		1922	
	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.	Number factories reporting.	Quantity produced.
Oleomargarine (uncolored):										
Animal and vegetable oil	45	*1,000 lbs.* 255,197	45	*1,000 lbs.* 214,759	51	*1,000 lbs.* 161,036	55	*1,000 lbs.* 103,902	57	*1,000 lbs.* 104,285
Exclusively vegetable oil	54	88,861	58	132,906	71	190,280	71	99,265	69	74,127
Exclusively animal oil	2	3,307	5	3,391	7	3,843	3	624	3	303
Oleomargarine (colored):										
Animal and vegetable oil	31	7,056	33	9,303	36	8,951	36	5,960	36	4,976
Exclusively vegetable oil	22	112	23	9,793	34	5,359	35	2,026	33	1,384
Exclusively animal oil	1	1,003	2	1,165	3	94	2	30	1	1
Total oleomargarine (colored and uncolored)	------	355,536	------	371,317	------	370,163	------	211,867	------	185,076

Division of Dairy and Poultry Products. Compiled from reports made by manufacturers.

TABLE 439.—*Condensed milk: International trade, 1909–1922.*

Country.	Calendar years.							
	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Australia [1]	4,463	727	524	35,420	93	33,287	------	------
Canada	259	4,575	83	52,036	147	35,401	232	24,813
Denmark	[2] 11	[3] 4,724	------	13,793	6	37,523	------	50,293
Italy	806	5,913	531	405	1,129	289	664	1,043
Netherlands	[4] 39	55	75	115,804	281	66,899	534	190,581
New Zealand [1]	261	132	812	1,792	41	3,029	48	1,482
Norway	3	32,106	3,697	9,756	1,210	6,556	831	15,450
Switzerland	201	80,539	6,108	46,513	1,432	46,825	5	45,474
United States	------	[3] 16,200	23,756	411,078	8,668	289,725	5,294	187,497
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	742	------	833	------	------	------	------	------
Belgium	[5]	[5]	[6]	[6]	2,671	46	768	138
Brazil	8,694	------	2,737	------	579	------	------	------
British India [1]	11,236	------	8,673	191	7,895	116	7,222	147
China	4,484	------	5,883	------	6,185	------	8,025	------
Cuba	28,457	------	51,932	------	------	------	------	------
Egypt	[4] 1,628	------	1,736	[7]	898	[7]	2,310	------
France	2,458	4,140	83,562	18,576	37,261	11,723	32,923	7,350
Germany [8]	66	12,080	9,180	525	[9] 6,089	[9] 2,890	9,294	1,022
Japan	10,061	------	6,269	------	8,010	132	------	------
Java and Madura	[3] 6,136	[3] 74	7,449	------	10,443	------	11,052	------
Philippine Islands	12,311	------	16,689	------	12,239	------	12,177	------
Spain	5,605	------	1,675	------	5,639	------	83	------
Sweden	* 28	92	2,192	971	94	467	166	------
Union of South Africa	21,227	[7]	12,376	9	7,282	[7]	6,932	1
United Kingdom	121,175	48,221	199,145	6,670	235,349	4,065	207,792	15,591
Total 25 countries	240,351	209,578	445,977	713,539	354,241	538,973	306,352	540,882

Division of Statistical and Historical Research. Official sources.

[1] Includes some preserved milk.
[2] Two-year average.
[3] Four-year average.
[4] Three-year average.
[5] Not separately stated.
[6] One year only.
[7] Less than 500 pounds.
[8] Includes some powdered milk.
[9] Eight months, May–December.

TABLE 440.—*Milk: Monthly retail price, standard or grade B milk, per quart, delivered to family trade in cities, 1920–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Boston:	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1920	17	17	17	17	16	16	17	17½	18	18	18	18
1921	17	16½	16	15½	15	15	15	16	15½	15	15	15
1922	13½	13½	13½	13½	12½	12½	13½	13½	13½	14½	14½	14½
1923	14½	14½	14½	13½	13½	13½	14	14½	14½	14½	15½	13½
New York:												
1920	18	16½	16½	15	15	15	16	17	18	18	18	17
1921	17	16	15	------	------	14	14	15	15	15	15	15
1922	15	15	15	------	15	13	14	15	15	15	15	16
1923	16	15	15	15	14	14	14	14	15	15	16	16
Philadelphia:												
1920	14	14	14	14	14	14	14	15	15	15	15	13
1921	13	13	13	13	11	11	11	11	11	11	11	11
1922	11	11	11	11	11	11	11	11	11	12	12	12
1923	11½	12	12	12	13	13	13	13	13	13	12	12½
Pittsburgh:												
1920	16	16	16	15	15	15	15	16	16	16	16	16
1921	15	15	14	14	14	14	14	14	14	14	14	13
1922	13	12	12	12	12	12	12	12	------	------	14	14
1923	------	------	14	14	14	14	14	14	14	15	15	15
Cincinnati:												
1920	15	15	15	15	15	15	15	15	15	16	15	15
1921	15	14	14	14	13	13	13	13	13	13	13	13
1922	13	12	12	12	12	12	12	12	12	12	12	12
1923	12	12	12	12	12	12	12	12	12	14	14	14
Cleveland:												
1920	16	16	16	15	15	15	15	16	16	16	15	15
1921	15	14	14	14	14	13	13	13	13	13	13	13
1922	11	11	11	10	10½	10½	10½	11	11	13	13	14
1923	14	14	14	14	13½	13	14	14	14	13½	14	12
Indianapolis:												
1920	14	14	14	14	14	14	14	14	14	14	14	14
1921	14	14	13	13	13	12	12	12	12	12	11½	11
1922	11½	11	11	10½	10½	10	10	10	10	------	10	10
1923	10	12	12	12	12	12	12	12	12	12	12	12
Chicago:												
1920	15	15	14	14	14	14	15	16	16	16	15	14
1921	14	14	14	14	14	14	14	14	12	12	12	12
1922	12	12	12	12	12	12	12	12	12	12	12	12
1923	12½	13	13	13	13	13	14	14	14	14	14	14
Detroit:												
1920	16	16	16	16	15½	15½	16	16	16	16	16	14
1921	13	13	13	13	13	13	13	13	13	13	13	13
1922	13	13	12	11½	11½	11½	12	13	13	13	13	14
1923	13½	13½	13½	14	14	14	------	15	15	15	14	13½
Milwaukee:												
1920	13	13	12	12	12	12	13	13	13	13	11	11
1921	------	10	10	10	9	9	9	10	9	9	9	9
1922	9	9	9	9	9	9	9	9	9	9	10	10
1923	10	10	10	10	10	10	10	11	11	11	11	10½
Minneapolis:												
1920	13	13	13	13	13	13	13	14	14	14	14	14
1921	13	12½	12	12	11	10	10	11	11	11	11	10½
1922	10	10	10	10	10	10	10	10	11	11	11	11½
1923	11	11	10½	11	11	11	11	12	12	12	12	11½
St. Paul:												
1920	13	13	13	13	13	13	13	14	14	14	14	14
1921	13	13	12	12	11	10	------	11	------	11	11	10½
1922	10	10	10	10	10	10	10	10	11	------	11	------
1923	11	11	11	11	11	11	------	12	12	12	12	12
Sioux City:												
1920	16	16	16	16	16	15	15	15	16	16	16	16
1921	15	14	13	------	12½	12½	12½	12½	12½	12½	12½	------
1922	11	10	10	10	10	10	------	11	------	------	------	------
1923	------	------	------	10	10	10	------	11	12	------	12	12
St. Louis:												
1920	16	16	16	15	15	15	15	16	16	16	16½	16
1921	16	15	14	14	13	14	13	13	13	13	13	10
1922	10	10	10	10	10	10	12	12	12	12	12	13
1923	13	13	13	13	13	13	13	13	13	13	13	13
Kansas City:												
1920	15½	15½	16	16	15½	15½	15	15½	15	15½	15½	15½
1921	14½	14	13½	13½	13½	13	14	14	14	14	14	14
1922	14	13	12	11	11	11½	11½	12	10	12	12	12½
1923	13	13	13	13	13	13	13	13	13	13	13	12½
Washington, D. C.:												
1920	18	17½	17½	17½	16	16	16	16	16½	17½	17½	17½
1921	16½	15	16	16	13	13½	13½	13½	14	15	15	15
1922	13½	13	13	13½	13	13	13	13	13	14	14	14
1923	14	14	14	14	14	14	14	14	14	14	15	15

TABLE 440.—*Milk: Monthly retail price, standard or grade B milk, per quart, delivered to family trade in cities, 1920–1923*—Continued.

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Richmond:	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1920	16	16	16	16	16	17	16	16	16	16	16	16
1921	16	16	14½	13	14	14	14	14	14	14	14	14
1922	14	14	14	13	13	13	13	13	13	13	14	14
1923	15	14	14	14	14	14	14	14	14	14	15	------
Jacksonville:												
1920	20	20	20	20	20	20	25	25	25	24	22½	22½
1921	------	18	18	------	------	20	------	19	20	20	18½	18½
1922	17½	------	17	14	14	14	16½	15½	17	16½	17	17
1923	17½	17½	18½	16	15½	15½	16½	16	17	18½	18	17½
Louisville:												
1920	16	16	16	16	16	16	16	16	16	16	16	------
1921	15	20	------	------	------	------	11	12	11	11	11	11
1922	11	9	9	9	9	9	9	10	11	11½	12	13
1923	13	12	12	12	12	12	12	12½	12½	13	13	13
Nashville:												
1920	17	17	17	17	17	17	17	17	17	19	17	17
1921	16	16	16	14	14	14	14	14	15	14	14	14
1922	11	11	11	11	11	11	11	11	11	11	11	------
1923	12	12	12	12	12	12	12	12	------	------	14	14
Birmingham:												
1920	21½	20	20	20	23	20	20	22½	22½	20	20	22½
1921	22½	22½	------	20	------	18	20	17½	17½	17½	17½	17½
1922	20	18	------	17½	15	16	------	17½	------	------	16	------
1923	14	16	17	16	16	16	16	16	16	16	15	15
New Orleans:												
1920	19	19	19	19	17	17	17	17	19	19	19	18
1921	17	17	16	16	16	16	16	16	16	16	14	14
1922	14	14	14	14	14	14	14	14	------	14	14	14
1923	14	14	14	14	14	14	14	14	14	15	15	15
Dallas:												
1920	------	23	23	21	21	21	21	21	21	21	21	21
1921	------	19	17	------	15	------	15	------	15	------	------	15
1922	15	15	12	12	12	12	15	15	15	15	15	15
1923	15	15	15	15	15	15	15	15	15	15	15	14
Butte:												
1920	15	15	15	------	15	15	15	15	------	15	15	15
1921	15	15	15	------	13	------	12½	12½	12½	13	13	13
1922	12½	13	12½	12	12½	11½	11½	12	12	12	13	12½
1923	12½	12½	13	12½	12½	12	12½	12½	13½	13	13	13
Denver:												
1920	12½	12½	13	13	13	13	13	13	13	13	13	13
1921	13	13	13	12	11	11	11	11	10	10	10	10½
1922	10	10	9½	10	10	9½	10	10	9½	10	10	12
1923	12	12	12	12	12	12	12	12	12	12	12	10
Salt Lake City:												
1920	12½	12½	12½	12½	12½	12½	13	12½	12½	12½	12½	12½
1921	12½	12½	12½	12½	12½	12½	12½	12½	12½	12½	12½	12½
1922	10	8½	9	9	8½	8½	8½	8½	------	9	8½	9
1923	10½	10	10	------	10	------	------	10½	9½	10	10	11
Seattle:												
1920	14	14½	13½	12	------	13	14	14	14	14	------	13
1921	13	11	13	13	12	------	------	12	------	12	12	11
1922	13	13	13	12	12	12	12	13	13	12½	13	13
1923	13	13	13	13	12	12	12	12	13	13	13	10
Portland, Oreg.:												
1920	15	15	15	13	13½	13	13	14	14	14	14½	14½
1921	14	14	14	------	13	12	12	12½	12½	12½	12	12
1922	12	11	11	------	11	11	11	12	12	12	12	12
1923	12½	12	12½	12	12	12	13	12	12	12½	12	11½
Los Angeles:												
1920	16	16	16	16	16	16	18	18	18	18	18	18
1921	18	16	16	16	------	16	15	14	14	14	14	14
1922	14½	14	14	14	14	14	14	14	14	14	15	15
1923	15	15	15	15	15	15	15	15	15	15	15	15
San Francisco:												
1920	16	16	15½	15	16	16	15½	17	17	17	17	17
1921	15½	15½	15	15	15	14½	13½	14	14	13½	13½	13½
1922	13½	12½	12½	12½	------	12½	12½	12½	12½	12½	12½	13
1923	12½	12½	12½	12½	12½	12½	12½	12½	------	------	14	14

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TABLE 441.—*Milk: Monthly wholesale price, standard or grade B milk, per quart, in cases of 12 quarts, 1920–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Boston:												
1920	15	15	15	15	14	14	15	15	16½	16½	16½	16½
1921	15½	15	13½	13½	13½	13½	13½	14	14	14	14	14
1922	11	10½	10½	10½	10½	10	11	11	11	12	12	12
1923	12	12	12	11½	11½	11½	12	12½	12½	12½	13½	13
New York:												
1920	17½	16	16	15	15	15	------	17	18	18	18	17
1921	17	16	15	------	------	------	14	15	14½	14½	14½	14½
1922	14½	14½	13½	------	13	12½	14	14½	14½	14½	14½	15½
1923	15½	14	14	14	13½	13	13	13	14	14	14½	14
Philadelphia:												
1920	13	13	13	13	13	13	13	14	14	15	14	12
1921	12	12	12½	------	10	10	10	10	10	10	10	10
1922	10	10	10	10	10	10	10	10	10½	11	11½	11½
1923	10½	11	11½	12	12	12	12	12½	12½	12	11½	11½
Pittsburgh:												
1920	15½	15	15	14½	14½	14½	14½	15½	15½	15½	15½	15½
1921	14½	14½	13½	13½	13½	13½	13½	13½	13½	13½	13½	12½
1922	12½	11½	11½	11½	11½	11½	11½	12	------	12½	13½	13½
1923	13½	13½	13½	13½	13½	13½	13½	13½	13½	14½	14½	14½
Cincinnati:												
1920	14½	14	14	------	14	14	14	14	14	14	14	14
1921	14	13	13	------	12	12	12	12	12	12	12	12
1922	12	11	11	11	11	11	11	11	11	11	11	11
1923	11	11	11	11	11	11	------	10	10½	12	12	12
Cleveland:												
1920	14½	14½	14½	13½	13½	13½	13½	14½	14½	14½	13½	13½
1921	13½	12½	12½	12½	12½	11½	11½	11½	11½	11½	11½	11
1922	9	9	9	9	8½	8½	8½	8½	8½	10½	10½	11½
1923	11½	11½	11½	11½	11½	11	11	11½	11½	11½	11½	11½
Indianapolis:												
1920	12	12	12	12	12	12	12	12	12	12	12	12
1921	12	12	11	11	11	10	10	10	10	10	10	9
1922	10	9	9	9	9	8	8	8	8	8	8	8½
1923	8½	10½	10½	11½	10½	10½	10½	10	10½	10½	10½	10½
Chicago:												
1920	14½	14½	13½	13½	13½	13½	14½	15½	15½	15½	14	13½
1921	13½	13½	13½	13	13	13½	13½	13	11½	11½	11½	11½
1922	11	11	11	9½	11	11	11	11	11	10	11	11
1923	11	12	12	12	11	12	13	13	13	13	13½	13½
Detroit:												
1920	15	15	15	15	14½	14½	15	15	15	15	15	13
1921	12	12	12	12	12	12	12	12	12	12	12	12
1922	12	12	11	11	10½	10½	10½	11	11	11½	10	11
1923	12	11½	12	12½	12½	12	------	13	13	13	12	12½
Milwaukee:												
1920	12	12	11	11	11	11	12	12	12	12	10	10
1921	------	8½	8½	8½	7½	7½	7½	8	7½	7½	7½	7½
1922	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	8½	8½
1923	9½	8½	8½	8½	8½	8½	8½	9½	9½	9½	9½	9½
Minneapolis:												
1920	11½	11½	11½	11½	11½	11½	11½	12½	12½	12½	12½	12½
1921	11½	11	10½	10½	9½	8½	8½	9½	9½	9½	9½	9
1922	8½	8½	8½	8½	8	8½	8	8½	9	9	9	10
1923	9½	9½	9½	9½	9½	9½	9½	10½	10½	10½	10½	10½
St. Paul:												
1920	12	12	12	11½	11½	------	12	12½	12½	12½	12½	12½
1921	11½	11½	10½	10½	9½	8½	------	9½	------	9½	9½	9½
1922	8½	8½	8½	8½	8½	8½	8½	8½	9½	9½	9½	------
1923	9½	9½	9½	9½	9½	9½	9½	10½	10½	------	------	10½
Sioux City:												
1920	14½	14½	14½	14½	14½	13½	13½	13½	14½	14½	14½	14½
1921	13½	12½	11½	11	11	11	11	11	11	11	11	------
1922	9½	8½	8½	8½	8½	8½	------	9	------	------	------	------
1923	------	------	------	8	8	8	------	9	------	------	10	10
St. Louis:												
1920	15	15	15	------	14	------	14	15	15	15	15	15
1921	15	13½	13	12	13	11	11	11	11	11	11	------
1922	8	8	8	8	8	8	10	------	10	10	10	11
1923	11	11	11	11	11	11	11	11	11	11	11	11
Kansas City:												
1920	14	14	14	14½	14	13½	14	14½	13½	14½	13½	14½
1921	12½	13	11½	11½	11½	12	12	12½	12	12	11½	11
1922	11½	11	10	9	8½	9	9	9½	8½	9½	9½	10
1923	10½	10	10	10½	10	10½	11	10	10	11	10	10½
Washington, D. C.:												
1920	15½	15	15½	15	13½	13½	13½	14	14	15	15½	15
1921	14½	13	14	14	11	11	10	------	11	12	12	12
1922	11	12	10	10	10	10	10	10	10	11	11	11½
1923	11	11	11	11	11	11	11	11	11	11	12	12

TABLE 441.—*Milk: Monthly wholesale price, standard or grade B milk, per quart, in cases of 12 quarts, 1920–1923*—Continued.

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Richmond:												
1920	16	16	16	16	16	15	16	16	16	16	16	16
1921	16	------	14½	11	13	13	13	13	13	13	13	13
1922	13	13	13	12	12	12	13	12	12	12	13	13
1923	13	13	13	13	13	13	13	13	13	13	14	14
Jacksonville:												
1920	17	17	------	18	18	------	22	22	22	18	18	18
1921	------	15	15	------	------	16	------	16	14	16	16	16
1922	13	------	15	11	12½	------	13	12½	14½	14½	15	14½
1923	14½	14½	14½	13	12½	12½	12½	13	13	15	15	14½
Louisville:												
1920	14	------	14	14	14	14	14	14	14	14	14	------
1921	13	14	------	------	------	------	9	10	9	9	9	9
1922	9	7	7	7	7	7	7	8	9	9½	10	11
1923	11	10	10	10	10	10	10	10½	10½	11	11	11
Nashville:												
1920	16	16	16	16	16	16	16	16	16	16	16	15
1921	15	14	14	13	13	12	12	12	12	12	12	12
1922	10	9	9	9	9	9	9	9	9	9	9	10
1923	10	10	10	10	10	10	10	10	10	10	12	12
Birmingham:												
1920	15	18	15	15	15½	18	15	15	15	------	------	18
1921	18	15	------	15	14	14	14	13	13½	13½	13½	13½
1922	13	12	------	11	14	------	------	10	------	------	13	------
1923	14	13½	13½	13½	13½	13½	13½	13½	13½	13½	12	12
New Orleans:												
1920	17	17	17	17	15	15	15	15	17	17	17	16
1921	15	15	14	14	14	14	14	14	14	14	12	12
1922	12	12	12	12	12	12	12	12	12	12	12	12
1923	12	12	12	12	12	12	12	12	12	13	13	13
Butte:												
1920	------	12½	12½	------	------	12½	12½	12½	------	15	------	------
1921	12½	12½	12½	------	10	------	------	10	9	10	10	10
1922	10	10	10	10	10	9½	9½	9½	9	10	10	10
1923	10	10	10	10	10	10	10	10	11	11	11	11
Denver:												
1920	11½	11½	12	12	------	11	12	11	11	11	11	11
1921	------	13	------	10	9	9	8½	9	8	8	8½	8½
1922	8	8	7½	8	8	7½	8	8	8	8	8	10
1923	------	10	10	10	10	10	9	10	10	10	10	10
Salt Lake City:												
1920	11	11	11	11	11	11	11	11	11	11	11	11
1921	12	11	11	11	11	11	11	11	11	11	11	11
1922	8	8	8	8	8	9½	8	8	------	8	8	8
1923	9	9	9	9	9	9	9	9	9	9	9	9
Seattle:												
1920	11½	11	10	9	------	10	11	11	11	10½	------	------
1921	9	8½	9	9	8½	------	------	8½	------	8½	8½	8
1922	9½	9½	9½	8	8½	8½	8½	9½	9½	9	10½	10½
1923	10½	10½	10½	10½	9½	9½	9½	9½	10½	10½	10½	------
Portland, Oreg.:												
1920	13½	13½	13½	12	12½	12	12	12	13	13½	13	13
1921	12½	12	12	------	9	9	9	8	9	9	9	9
1922	9	8½	8½	------	8	8	8	9	9	9	9	9
1923	9	9	9	9	9	9	9	10	10	10	10½	9½
Los Angeles:												
1920	15	15	15	15	15	15	17	17	------	17	17	17
1921	17	15	15	15	------	15	14	13	13	13	13	13
1922	13½	13	13	13	13	13	13	13	13	13	14	14
1923	14	14	14	14	14	14	14	14	14	14	14	14
San Francisco:												
1920	14	14	13½	13½	14	14	13½	14	14	14½	14½	15
1921	13	13	13	12	12	12	11	11	11	11	11	11
1922	11	10½	10½	11	------	10½	10	10	10	10	10	11
1923	11	10½	10	10½	10	10½	------	11	------	------	12	11½

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TABLE 442.—*Creamery butter: Production, United States, 1917–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1917	43,997	38,459	47,371	53,809	75,108	98,898	94,151	83,936	76,744	56,176	42,705	48,157	759,511
1918	44,357	42,389	49,086	57,332	85,564	104,385	97,440	85,148	72,397	63,886	45,741	45,560	793,285
1919	52,189	44,343	54,822	67,487	103,941	119,357	104,156	84,458	68,815	58,723	45,041	46,662	849,994
1920	49,044	46,355	56,308	60,622	86,845	114,695	110,844	90,669	77,106	65,129	53,570	52,395	863,577
1921	58,906	56,556	67,677	82,763	119,077	130,633	111,898	111,638	89,932	84,374	70,024	71,460	1,054,938
1922	73,505	67,405	79,532	86,628	132,351	150,084	135,231	114,160	92,359	83,070	68,628	70,617	1,153,515
1923	75,494	69,515	81,724	85,857	118,345	140,256	143,671	116,906	98,577	-------	-------	-------	----------

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TABLE 443.—*Butter: Receipts at five markets, 1918–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
New York:													
1918	13,725	14,100	15,750	14,325	17,550	27,900	25,875	20,250	15,600	18,375	13,125	13,725	210,300
1919	16,439	16,119	16,232	17,125	22,904	28,419	23,372	22,893	19,650	16,219	15,285	12,041	226,698
1920	11,794	11,201	12,972	7,845	13,383	20,205	21,534	18,203	14,914	12,079	10,436	10,042	164,608
1921	12,101	11,027	12,969	14,265	21,339	27,233	21,635	23,664	21,187	17,072	15,564	14,892	212,948
1922	16,191	16,475	19,256	16,238	24,723	34,583	30,715	23,085	18,209	16,885	16,016	14,801	247,177
1923	19,815	15,119	19,671	18,143	24,071	31,165	27,780	21,396	18,631	17,572	15,012	15,389	243,764
Chicago:													
1918	18,142	22,169	24,051	21,039	20,780	36,173	34,554	27,037	21,134	21,916	16,122	14,544	277,661
1919	12,324	10,177	11,458	12,891	23,168	33,373	24,627	18,556	13,156	10,758	7,722	7,569	185,779
1920	10,065	9,447	11,398	10,344	17,118	25,344	27,633	20,200	15,455	11,417	9,528	8,797	176,746
1921	10,084	9,908	12,195	14,513	21,785	28,571	21,551	21,200	14,864	14,664	11,185	13,011	193,591
1922	13,628	12,047	14,184	14,878	23,568	31,640	27,166	21,582	15,664	13,394	11,652	14,196	213,099
1923	16,577	14,328	15,817	15,949	23,379	32,893	26,120	18,673	16,760	15,386	14,083	15,932	225,892
Philadelphia:													
1918	-------	-------	2,620	2,484	3,591	4,941	4,721	4,069	3,419	3,445	2,693	2,898	34,881
1919	3,824	3,250	3,748	4,101	5,064	6,660	5,026	4,356	4,141	3,847	4,181	2,903	51,191
1920	3,264	3,520	3,398	2,964	3,980	6,237	5,850	4,773	4,698	3,771	3,010	3,165	48,630
1921	3,250	2,817	3,860	4,064	6,139	7,803	6,486	5,713	5,107	4,780	4,184	4,543	58,766
1922	5,487	4,640	4,877	4,449	6,505	8,791	6,872	5,944	4,571	4,328	4,075	4,202	64,741
1923	5,111	4,372	6,077	5,307	6,470	9,499	6,418	6,045	5,262	5,355	4,267	4,415	68,598
Boston:													
1918	2,345	2,750	4,323	4,071	6,159	11,874	12,237	7,569	5,377	6,218	5,079	3,429	71,440
1919	4,014	3,821	3,140	4,378	9,554	14,107	13,699	7,609	5,241	3,412	2,210	2,038	73,223
1920	3,216	3,176	5,368	3,709	6,323	12,060	14,408	8,749	6,762	4,372	2,378	2,474	72,993
1921	3,722	3,752	4,147	3,881	8,045	12,536	9,433	9,357	6,994	6,296	3,282	3,093	74,538
1922	4,787	4,295	4,794	4,381	10,907	16,959	11,562	8,659	6,009	4,578	4,484	4,075	85,490
1923	4,285	4,539	5,431	6,142	7,946	13,536	12,403	7,905	6,776	5,174	4,741	3,781	82,659
San Francisco:													
1918	2,278	1,851	2,564	3,129	2,771	2,170	1,762	1,531	1,178	1,215	1,258	1,201	22,908
1919	1,266	1,479	2,014	2,792	2,979	2,434	2,202	1,832	1,094	1,337	1,333	1,269	22,031
1920	1,488	1,665	2,178	3,140	2,767	2,197	1,744	1,789	1,722	1,739	1,565	1,572	23,566
1921	1,652	1,431	1,982	2,345	2,255	2,306	2,359	2,710	2,064	2,538	2,206	1,718	25,566
1922	1,742	1,582	2,152	2,619	2,731	2,742	2,178	2,257	2,034	2,228	1,862	1,789	25,916
1923	2,055	1,524	1,960	2,405	2,462	2,882	2,616	2,224	1,878	1,906	1,656	1,942	25,510
Total 5 markets:													
1918	-------	-------	49,308	45,048	50,851	83,058	79,149	60,456	46,708	51,169	38,277	35,797	539,821
1919	37,867	34,846	36,592	41,287	63,669	84,993	68,926	55,246	43,282	35,573	30,731	25,910	558,922
1920	29,827	29,009	35,314	28,002	43,571	66,043	71,167	53,714	43,551	33,378	26,917	26,050	486,543
1921	30,779	28,935	35,153	39,068	59,563	78,449	61,464	62,734	50,216	45,350	36,421	37,257	565,409
1922	41,835	39,039	45,263	42,065	68,434	94,715	78,493	61,527	46,487	41,413	38,089	39,063	636,423
1923	47,843	39,877	48,956	47,946	64,328	89,975	75,337	56,243	49,307	45,393	39,759	41,459	646,423

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

TABLE 444.—*Butter: Receipts at five markets, by States of origin, 1923.*

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Canada	33					1					103		137
Chicago	1,277	1,502	1,035	1,073	1,520	1,064	1,012	607	403	390	560	384	10,917
Illinois	1,044	1,003	1,703	1,693	2,085	4,056	3,953	1,699	2,199	1,334	1,041	790	22,600
Indiana	60	164	18	57	172	758	670	263	180	155	183	42	2,722
Iowa	249	128	136	152	271	483	389	380	231	176	241	207	3,023
Kansas	24	23	65	29	62	70	45	21	17	7	39		402
Maine	2	1	4	2	1	4	2	1		24	42	4	87
Massachusetts	185	7	39	29	31	60	4	46	10	23	88	180	702
Michigan	42	28	48	55	117	325	432	205	91	77	62	73	1,555
Minnesota	307	582	758	1,205	1,372	2,445	2,292	2,133	1,667	1,411	855	853	15,880
Missouri	52	21	9	3	33	77	90	93	97	31	113	27	646
Nebraska	262	185	381	278	318	650	251	267	147	89	166	280	3,274
New Hampshire	24	25	28	25	39	26	21	16	14	18	18	9	263
New York	22	33	109	178	114	597	618	278	392	308	341	365	3,355
New York City	64	76	208	191	93	401	562	157	125	101	225	20	2,223
North Dakota	8	23	27	85	118	172	234	364	235	171	108		1,545
Ohio	119	135	156	82	318	464	470	424	411	256	127	102	3,064
Oklahoma	22	29	15	18	51	6					3	22	166
Pennsylvania	6	39	21							74	3		143
South Dakota	16	83	106	145	274	417	484	208	46	59	11	42	1,891
Vermont	351	367	459	698	801	894	551	854	300	349	332	298	5,854
Wisconsin	116	86	104	99	145	413	293	198	124	119	56	60	1,813
Other States	2	1	1	44	11	153	50	46	41		24	24	397

NEW YORK.

Alabama	40	19	20	21	43	32	17	11	10	5	6	10	234
California	31		59	79	59		60						288
Canada	513	24	32	118	218			84	259	431	1,280	672	3,631
Georgia	22	8	4	9	16	11	12	3	3	1	2	7	98
Illinois	3,047	2,714	2,659	2,429	2,806	3,606	4,334	2,514	3,347	2,217	1,860	2,297	33,830
Indiana	647	553	307	311	600	1,104	597	180	322	360	159	82	5,222
Iowa	3,525	2,732	3,618	3,572	5,190	6,541	5,284	4,325	3,714	3,820	3,100	3,019	48,440
Kansas	274	50	86		109	134	195	52	56	90	244	4	1,294
Kentucky	31	42	61	14	51	38	42	91	101	19	16	11	517
Maryland	32	12	13	25	6	1	16	4	40	2			151
Massachusetts	9	5	44	17	25	15	6	44	3	22	39	30	259
Michigan	751	600	611	590	722	1,133	658	417	294	513	329	458	7,076
Minnesota	5,412	4,689	7,798	6,786	8,527	11,344	10,831	8,215	6,586	5,976	4,107	4,673	84,944
Mississippi	9	7	6	8	14	28	29	30	3	4	2	2	142
Missouri	558	255	251	159	540	655	606	512	172	321	390	230	4,649
Nebraska	2,002	1,550	1,655	1,648	2,133	2,080	1,528	2,016	1,069	1,502	1,488	1,688	20,359
New Jersey	4	5	3			1	2		42	16		57	130
New York	274	219	404	400	653	837	539	812	365	558	547	522	6,130
North Carolina	28	19	26	23	50	55	33	41	21	27	22	13	358
North Dakota	36	1	3	3	3	24	24	11	14	2	4	9	134
Ohio	897	450	534	412	527	1,531	1,348	1,016	1,059	849	721	490	9,834
Oklahoma	152	25	2	1	80							1	261
Pennsylvania	125	97	156	157	77	150	57	42	151	62	114	91	1,279
South Carolina	2	2	2	3	2	2	22	1			1	1	38
South Dakota	34	24	16	3	1	61	46	47	5	3	3	17	260
Tennessee	107	49	41	36	153	130	163	132	122	69	56	74	1,132
Utah	8		91	24	25						24	38	210
Vermont	12		9		8							17	46
Virginia	29	18	11	9	25	42	83	38	70	36	33	23	417
Washington				58		15	94		27				194
West Virginia			1	1		9	4	7	1	1	1	1	26
Wisconsin	1,047	926	1,122	1,228	1,375	1,536	1,147	748	757	663	411	811	11,771
Other States	157	25	25		31	51	2	3	19	2	54	43	412

TABLE 444.—*Butter: Receipts at five markets, by States of origin, 1923*—Contd.

PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Alabama							22	22	27		11		82
California	22		11									26	59
Canada	48				63			88	29	24			252
Delaware	14	6	12	11	9	4	1		3	6	5		71
Illinois	745	516	786	982	2,049	1,219	2,155	870	420	656	842	513	11,753
Indiana	383	281	360	340	439	580	283	197	226	308	148	212	3,757
Iowa	181	125	88	91	62	111	61	112	105	136	112	130	1,314
Kansas	5	35	38		92	30	22				1		223
Kentucky	1	3	1		4	75	25	3	1		2	3	118
Maryland	36	22	25	1	56	5	194	246	230	120	82	40	1,057
Michigan	222	121	80	208	281	167	282	129	11	86	177	48	1,812
Minnesota	2,401	2,354	2,470	2,284	1,630	3,585	1,656	2,530	2,337	2,061	1,615	2,271	27,194
Mississippi	12				96	196	33			21		43	401
Missouri	24	25	110	27	145	353	86	13	6	1	24	128	942
Nebraska	98	84	157	175	143	307	165	195	114	194	51	74	1,757
New Jersey	2	1	2	1					25	118	135	1	285
New York	36	114	1,182	449	452	683	416	413	591	744	389	204	5,673
Ohio	214	167	158	142	218	562	312	245	284	199	107	111	2,699
Oklahoma	3		1	1		2	1	2		1	1		12
Pennsylvania	240	125	196	205	228	211	223	238	243	226	236	200	2,571
Tennessee	35	47	10	49	61	473	51	62	80	3	29	15	915
Virginia	73	72	78	71	101	127	101	143	149	140	106	86	1,247
West Virginia	2	2	2	2	14	43	5	31	8	44	4	3	160
Wisconsin	289	234	292	268	323	758	324	504	394	266	189	283	4,119
Other States	23	38	18		4	15		4				22	124

CHICAGO.

Arkansas		1			5	1	5	2	5			3	22
California			152	167									319
Canada											158	57	215
Colorado	73	55	118	76	162	159	125	93	119	48	76	135	1,289
Georgia	4				1	1	1		1		2		10
Idaho			68	58	29							78	233
Illinois	623	660	413	364	708	1,444	707	551	452	540	459	471	7,392
Indiana	131	69	68	47	106	192	175	125	94	47	30	25	1,109
Iowa	3,306	2,788	2,868	3,065	3,800	5,690	4,240	3,768	3,549	3,364	2,993	2,677	42,108
Kansas	1,207	711	689	735	1,302	1,736	1,151	562	412	516	580	699	10,300
Kentucky	19	18	21	21	108	109	38	215	194	77	39	12	871
Michigan	189	144	118	114	230	437	316	98	31	50	85	154	1,966
Minnesota	2,634	2,440	3,185	2,551	3,772	5,299	4,655	3,121	3,049	2,674	2,928	3,303	39,611
Mississippi	1	1	27		57	3		51	2	1	1		144
Missouri	1,164	748	597	515	1,312	1,604	757	1,109	777	850	729	1,026	11,188
Montana	8	11	10	14	19	62	56	23	25	77	120	218	643
Nebraska	1,251	1,707	1,259	1,174	1,311	1,975	2,019	1,029	1,133	1,247	1,210	2,118	17,433
New Mexico	1	3	4	1			2	7	3	7	1	3	32
North Dakota	120	96	142	98	285	490	512	483	526	208	251	207	3,418
Ohio	115	26	23	1		29	22	52	3	1	41	112	425
Oklahoma	209	45	12	8	636	592	224	42	79	60	81	106	1,894
Pennsylvania		2			1		1		3	11	13	5	36
South Dakota	941	784	1,120	1,017	1,227	2,257	2,160	1,378	1,100	886	597	782	14,249
Tennessee	6	7	6	7	22	5	3	2	22	27	2	3	112
Texas	2			91	70	43						1	216
Wisconsin	4,570	4,003	4,864	5,802	8,405	10,763	8,953	5,959	5,181	4,695	3,685	3,708	70,588
Other States		5	51	25	2	1		1	1		3	29	118

SAN FRANCISCO.

California	1,707	1,442	1,922	2,321	2,305	2,127	1,818	1,839	1,546	1,664	1,484	1,630	21,805
Canada							87	38	101	29	27	34	316
Idaho	28		1	30	6	100	152	30	52	56	21	26	502
Montana							142	114	53	24		28	361
Nebraska							25						25
Nevada	16	12	12	11	32	49	35	54	34	28	9	11	293
Oregon	167	55	17	34	71	333	228	60	51	36	77	48	1,177
Utah	3	13	7		7	30	40	9	15	20	10	25	179
Washington	134	2		10	41	163	14	80	21	49	27	141	682
Other States							81	75		15			171

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

TABLE 445.—*Cold storage holdings of creamery butter in United States, 1916–1923.*

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1916	48,977	31,139	15,033	3,346	1,082	7,017	53,863	102,537	105,836	100,522	85,260	67,292
1917	46,134	30,474	16,952	6,805	3,607	9,953	49,982	88,992	108,179	109,154	100,115	79,928
1918	50,726	26,618	18,808	14,629	9,536	12,698	49,140	88,305	99,334	87,883	80,874	65,111
1919	43,910	36,777	24,191	11,909	9,659	29,435	90,158	123,546	131,388	121,816	100,474	73,654
1920	53,737	38,359	22,568	12,555	7,554	12,872	52,526	101,455	115,558	113,385	101,778	79,750
1921	58,682	41,486	27,103	14,732	7,712	21,682	61,991	82,838	92,292	90,116	77,983	65,129
1922	48,412	35,047	22,582	9,113	3,830	13,202	67,410	103,151	112,039	96,680	73,857	47,773
1923	26,819	16,122	8,910	4,824	3,248	10,112	62,768	101,774	102,731	96,117	76,472	51,508

Division of Statistical and Historical Research.

TABLE 446.—*Butter: International trade, calendar years, 1909–1922.*

Countries.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Argentina	113	6,934	10	47,368	----------	52,187	----------	52,395
Australia	46	77,859	34	92,421	732	127,347	----------	78,975
Canada	3,388	3,973	1,105	13,361	4,018	9,133	6,397	21,505
Denmark	6,241	195,530	6	164,959	403	202,953	2,769	210,542
Finland	2,370	26,337	5	2,508	14	14,253	29	18,373
Netherlands	4,987	75,133	131	45,576	4,401	44,528	10,816	50,981
New Zealand	47	38,761	(1)	34,945	(1)	100,630	----------	125,462
Russia	2,202	150,294	----------	----------	----------	----------	----------	----------
Union of South Africa	3,913	26	622	488	382	2,698	196	1,500
United States	1,647	4,125	37,454	17,488	18,558	8,015	6,957	10,938
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	1,946	9	1,162	20	1,356	34	----------	----------
Austria	----------	----------	781	----------	452	----------	----------	----------
Austria-Hungary	6,281	4,267	----------	----------	----------	----------	----------	----------
Belgium	14,024	3,125	18,461	127	22,663	1,337	41,750	290
Brazil	4,551	[2] 4	167	10	8	51	----------	----------
China	[2] 1,677	----------	1,410	----------	1,456	----------	1,421	----------
Cuba	1,459	----------	3,036	----------	----------	----------	----------	----------
Dutch East Indies	4,152	----------	6,793	23	6,824	----------	[4] 4,784	----------
Egypt	2,350	[2] 166	570	204	628	149	1,147	97
France	13,713	40,769	18,584	4,812	40,140	2,701	64,985	6,795
Germany	111,441	498	17,227	429	[5] 2,365	[4] 203	2,358	619
Greece	206	8	4,330	----------	4,393	----------	2,787	----------
Italy	972	7,870	3,104	96	1,004	145	2,964	1,683
Norway	976	3,137	8,098	5	7,560	29	7,653	14
Persia	2,201	[3] 3,059	796	155	----------	----------	----------	----------
Peru	462	20	1,389	----------	801	1	1,038	16
Philippine Islands	1,665	----------	1,309	----------	730	----------	----------	----------
Spain	939	259	808	879	620	354	694	231
Sweden	330	45,870	16,917	53	14,171	340	5,650	3,043
Switzerland	11,106	44	18,140	3	15,994	10	15,088	8
Trinidad and Tobago	847	----------	717	1	857	5	----------	----------
United Kingdom	455,489	1,179	187,799	363	372,895	1,105	427,403	1,674
Other countries	12,273	37	5,728	928	2,562	1,403	1,634	1,179
Total	674,014	689,293	356,693	427,222	525,982	569,611	608,520	586,320

Division of Statistical and Historical Research. Official sources.

Butter includes all butter made from milk, melted and renovated butter, but does not include margarine, cocoa butter, or ghee.

[1] Less than 500 pounds.
[2] Two-year average.
[3] Four-year average.
[4] Java and Madura only.
[5] Eight months, May–December.

TABLE 447.—*Butter: Farm price per pound, 15th of month, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1910	28.3	27.1	26.0	25.6	24.8	23.7	23.6	24.5	25.7	26.6	27.4	27.8	25.5
1911	26.0	23.4	22.6	22.0	20.8	20.4	21.0	22.4	23.4	24.5	26.3	27.8	22.9
1912	28.6	28.1	26.6	26.0	25.4	24.1	23.6	24.0	24.9	26.2	27.8	28.6	25.7
1913	28.0	27.6	27.6	27.3	26.2	25.1	24.8	25.4	26.7	27.8	28.7	29.2	26.7
Av. 1910–1913	27.7	26.6	25.7	25.2	24.3	23.3	23.2	24.1	25.2	26.3	27.6	28.4	25.2
1914	28.3	26.7	25.4	24.4	23.3	22.8	23.3	24.5	25.6	26.2	27.4	28.6	25.1
1915	28.3	27.4	26.3	25.8	25.2	24.5	24.2	24.4	24.9	25.8	27.0	28.0	25.7
1916	28.0	27.4	27.4	27.8	27.2	26.1	25.9	26.8	28.2	30.0	32.8	34.2	28.6
1917	33.8	33.8	33.8	34.8	35.6	34.2	33.8	35.0	37.5	39.9	41.4	42.5	35.9
1918	43.4	43.6	42.0	40.3	39.2	38.4	39.0	40.6	44.3	48.4	51.2	53.8	42.7
1919	52.2	46.7	45.7	49.0	49.7	48.2	47.7	49.0	50.6	53.8	58.0	60.6	50.3
1920	59.6	56.8	56.0	56.8	55.6	52.6	51.8	52.2	53.2	54.2	54.5	51.8	54.3
Av. 1914–1920	39.1	37.5	36.7	37.0	36.5	35.3	35.1	36.1	37.8	39.8	41.8	42.8	37.4
1921	47.0	43.6	41.2	39.5	34.0	29.2	31.6	35.4	37.4	39.6	41.0	40.7	37.0
1922	37.4	34.6	34.6	34.6	34.1	33.1	33.0	33.4	34.8	37.4	40.2	42.9	35.3
1923	43.0	42.0	41.6	40.8	39.4	37.9	37.0	38.0	40.2	42.2	44.3	45.8	40.4

Division of Crop and Livestock Estimates.

TABLE 448.—*Butter, first quality British: Average prices per pound in Great Britain, 1904–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1904	26.9	27.9	27.0	24.3	21.1	20.9	21.3	24.5	25.2	26.7	27.5	29.1	25.2
1905	28.4	28.4	26.4	25.3	22.3	22.3	24.3	27.4	28.4	28.4	29.4	31.4	27.0
1906	30.9	30.4	29.4	27.9	25.9	24.3	25.4	27.9	29.9	30.9	31.4	31.9	28.8
1907	31.4	30.4	29.4	27.9	25.9	23.8	24.8	26.4	26.9	28.9	30.4	31.4	28.1
1908	30.9	31.9	30.9	28.4	26.4	23.8	25.9	27.9	28.9	29.4	29.9	30.4	28.5
1909	30.4	29.9	29.4	27.9	25.9	24.8	25.9	27.9	28.4	29.4	30.4	31.4	28.7
1910	30.9	31.4	30.9	29.4	27.4	25.3	25.9	26.9	27.9	28.9	29.4	30.4	28.7
1911	30.4	29.9	29.4	27.9	25.9	24.8	25.9	29.4	30.4	31.9	32.4	32.9	29.3
1912	32.4	32.9	31.4	29.4	26.4	25.4	26.9	27.9	28.9	29.9	30.9	31.9	29.5
1913	31.9	31.9	31.4	28.9	26.9	25.4	26.4	27.9	28.9	29.4	30.4	31.4	29.2
Av. 1909–1913	31.2	31.2	30.5	28.7	26.5	25.1	26.2	28.0	28.9	29.9	30.7	31.6	29.0
1914	31.4	30.9	30.4	28.9	26.4	25.4	27.0	31.2	30.6	31.0	32.2	33.0	29.9
1915	33.8	34.6	33.5	32.0	29.4	29.3	30.8	32.4	33.2	35.6	36.0	37.9	33.2
1916	38.1	37.7	37.7	36.7	34.7	32.7	34.2	38.2	40.6	42.1	44.6	46.0	38.6
1917	48.0	49.0	49.0	48.6	44.6	42.1	44.1	48.5	51.5	54.4	54.9	55.4	49.2
1918	55.9	56.4	56.4	57.0	56.0	55.5	54.9	54.5	54.5	55.0	57.0	58.0	55.9
1919	58.0	58.0	56.8	56.2	56.3	55.7	53.5	51.6	50.5	50.4	49.3	45.5	53.5
1920	44.7	64.4	71.1	73.0	60.2	57.6	59.4	63.7	68.0	73.8	74.6	76.4	65.6
Av. 1914–1920	44.3	47.3	47.8	47.5	43.9	42.6	43.4	45.7	47.0	48.9	49.8	50.3	46.6
1921	75.1	72.5	64.0	56.1	44.7	38.1	42.4	47.9	44.2	45.6	47.6	49.3	52.3
1922	43.6	42.3	39.7	40.5	38.4	36.6	43.5	46.5	47.1	48.1	50.4	52.8	44.1
1923	53.6	52.8	51.7	47.5	36.6	33.8	33.9	40.3	43.1	44.8	46.4	49.1	44.5

Division of Statistical and Historical Research. Compiled from Ministry of Agriculture and Fisheries, Agricultural Statistics of Great Britain and Agricultural Returns of Great Britain. Average of wholesale prices at country markets. Conversions at par of exchange 1904–1913; subsequently at monthly average rates of exchange as quoted by Federal Reserve Board.

TABLE 449.—*Butter, 92 score creamery: Average wholesale price, 1910–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
New York:	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	33	30	33	31	28	28	28	29	30	30	31	30	30
1911	26	26	24	21	22	23	25	26	27	30	34	37	27
1912	39	32	31	33	30	27	27	27	30	31	34	37	32
1913	35	36	37	35	29	28	27	28	32	31	34	36	32
1914	33	29	28	25	26	27	28	30	31	32	35	34	30
1915	34	32	30	31	29	28	27	26	27	29	31	35	30
1916	33	34	37	36	31	30	29	31	34	35	39	40	34
1917	40	44	42	44	40	39	39	41	44	45	46	50	43
1918	52	50	44	42	42	44	45	46	56	58	63	69	51
1919	62	52	62	64	58	52	53	55	59	68	71	72	61
1920	65	66	67	71	61	57	57	55	59	60	63	55	61
Av. 1914–1920	46	44	44	45	41	40	40	41	44	47	50	'51	44
1921	52	47	48	46	32	33	40	43	43	47	45	44	43
1922	37	37	38	38	38	37	36	35	41	46	51	54	41
1923	52	50	49	46	42	39	39	44	46	48	53	55	47
Chicago:													
1918			41	42	42	42	43	45	55	56	62	67	50
1919	60	49	60	62	57	51	51	53	57	64	69	68	58
1920	63	63	66	64	57	55	55	54	57	57	60	51	58
1921	48	47	47	44	29	32	39	40	42	45	44	43	42
1922	34	37	38	37	34	36	34	34	39	44	50	53	39
1923	50	50	49	45	40	39	38	43	46	47	52	53	46
Philadelphia:													
1918					46	44	45	46	56	59	63	69	54
1919	62	52	62	65	59	53	54	56	59	68	70	73	61
1920	65	67	68	71	62	58	58	56	60	60	63	55	62
1921	53	48	49	47	33	33	40	43	43	47	46	45	44
1922	37	37	38	38	37	37	37	36	42	47	52	55	41
1923	52	50	50	46	42	40	40	45	47	49	53	55	47
Boston:													
1918					46	44	45	46	55	59	62	67	53
1919	63	51	62	65	59	53	53	56	58	64	69	71	60
1920	65	66	68	69	61	58	58	57	59	59	60	54	61
1921	52	48	48	46	32	34	41	43	43	46	45	44	44
1922	37	37	39	38	37	37	37	36	40	46	50	54	41
1923	52	50	51	47	43	40	40	44	46	48	51	53	47
San Francisco:													
1918										59	58	62	60
1919	56	49	56	56	50	54	54	55	60	63	64	65	57
1920	62	62	59	56	53	54	57	59	64	58	53	48	57
1921	42	46	38	34	31	34	39	42	44	46	46	41	40
1922	36	40	33	32	35	38	39	39	46	49	45	47	40
1923	48	46	42	41	42	44	42	45	48	47	48	48	45

Division of Statistical and Historical Research. From Urner-Barry reports, 1910–1917; subsequently compiled from daily reports of the Division of Dairy and Poultry Products.

TABLE 450.—*Butter: Average export prices per pound in Copenhagen, Denmark, 1882–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1882											[1]30.1	30.5	
1883	29.5	30.3	29.4	25.0	24.6	23.6	24.6	25.3	25.9	28.9	31.3	30.1	27.4
1884	29.2	30.0	27.4	25.8	23.0	21.9	22.3	24.9	27.5	30.3	28.4	28.4	26.6
1885	27.7	25.3	25.8	23.3	20.7	20.0	21.5	23.3	25.0	27.6	26.5	25.3	24.4
1886	25.6	24.2	23.0	20.5	19.8	17.7	20.3	21.5	23.0	26.4	26.0	26.4	22.9
1887	24.8	22.6	23.6	20.4	18.0	19.1	22.1	24.1	24.7	26.2	25.5	24.4	23.0
1888	23.9	23.2	23.3	19.9	18.5	20.5	20.8	20.5	21.5	24.1	24.2	26.6	22.2
1889	25.5	26.1	25.0	21.2	20.5	20.5	22.1	22.2	22.5	23.7	24.9	25.5	23.3
1890	23.5	23.7	23.4	22.0	20.2	18.2	17.9	20.2	22.9	24.4	26.0	25.3	22.3
1891	24.9	23.8	25.3	22.2	19.0	19.0	20.5	21.3	23.2	26.0	26.4	27.5	23.3
1892	27.2	26.1	25.1	21.9	21.9	20.2	20.8	20.8	23.5	26.6	26.1	25.0	23.8
1893	23.3	22.1	21.9	20.4	18.6	20.3	23.1	23.1	25.3	24.7	25.7	23.0	22.6
1894	23.2	22.2	21.7	19.9	17.7	17.0	17.3	18.4	20.3	20.9	26.5	24.1	20.8
1895	24.3	22.6	20.9	20.0	19.2	18.0	20.3	21.2	23.1	26.6	23.9	23.3	22.0
1896	23.6	23.8	22.6	19.7	18.6	19.3	20.3	23.8	23.4	25.2	23.8	24.3	22.4
1897	23.9	22.8	21.6	20.2	19.3	19.3	19.9	21.5	23.3	22.6	23.6	23.5	21.8
1898	22.5	22.8	22.4	20.6	18.8	18.5	18.1	19.4	22.3	24.2	24.1	25.3	21.6
1899	23.3	23.1	23.2	21.3	19.8	19.8	21.3	24.4	26.9	26.8	24.6	25.3	23.3
1900	23.8	22.8	21.8	21.4	21.2	22.4	22.4	24.5	24.0	24.5	25.4	26.0	23.4
1901	25.6	24.1	23.3	22.3	21.4	21.4	21.5	23.1	24.9	26.1	25.0	24.3	23.6
1902	22.8	24.1	23.3	23.1	21.9	21.9	21.9	21.5	23.4	24.6	24.3	24.1	23.1
1903	22.8	22.7	24.3	22.2	20.5	20.5	20.6	21.0	22.1	24.5	23.9	23.3	22.4
1904	22.4	23.0	21.9	19.4	18.7	19.3	19.8	21.8	23.7	23.4	22.6	22.7	21.6
1905	22.8	22.8	23.0	21.6	20.4	21.1	23.0	24.6	24.8	24.7	[2]25.4	25.2	23.3
1906	25.5	24.0	24.4	23.0	22.1	23.2	23.7	24.8	26.2	25.6	[2]25.3	25.0	24.4
1907	24.3	23.6	23.1	21.4	21.4	22.1	22.9	23.1	23.6	25.8	25.6	25.6	23.5
1908	26.1	28.7	24.8	22.7	22.9	23.4	24.8	25.1	24.8	26.3	25.6	23.1	24.9
1909	23.4	23.9	23.6	22.2	22.9	22.7	23.4	23.6	25.1	26.8	26.8	26.1	24.2
1910	25.1	26.1	27.0	25.1	23.4	23.4	23.4	23.4	23.9	24.1	23.9	23.9	24.4
1911	23.6	24.6	24.1	23.6	22.4	22.9	24.4	26.8	27.8	29.5	27.8	28.2	25.5
1912	27.8	27.8	28.2	26.1	23.9	24.4	24.4	25.8	26.8	27.0	26.8	27.0	26.3
1913	26.3	27.0	27.0	24.8	23.4	24.1	24.8	24.8	26.8	27.5	26.8	27.0	25.9
Av. 1909–1913	25.2	25.9	26.0	24.4	23.2	23.5	24.1	24.9	26.1	27.0	26.4	26.4	25.3
1914	26.1	25.6	25.6	24.1	23.4	23.9	[4]25.9	24.4	25.0	27.8	27.3	29.9	25.8
1915	29.6	26.9	28.0	27.6	29.6	29.1	31.0	32.6	34.7	41.6	40.5	36.6	32.3
1916	33.8	35.4	37.8	36.8	36.3	35.7	36.7	40.1	42.1	42.6	44.3	44.9	38.9
1917	45.3	39.6	38.4	37.2	38.6	40.5	45.0	49.7	54.6	65.4	68.4	65.5	49.0
1918	64.2	63.7	64.0	65.0	65.3	64.7	65.1	65.0	62.0	58.3	75.6	76.0	65.7
1919	75.8	73.8	72.4	71.1	58.2	50.8	48.4	46.5	54.7	53.8	59.5	52.1	59.8
1920	48.9	42.1	49.2	49.8	44.2	44.8	42.4	42.9	43.6	45.7	44.7	44.0	45.2
Av. 1914–1920	46.2	43.9	45.1	44.5	42.2	41.4	42.1	43.0	45.2	47.9	51.5	49.9	45.2
1921	42.4	39.3	40.4	43.9	33.5	32.4	38.3	41.1	36.4	38.3	39.9	31.8	38.1
1922	31.1	31.0	32.9	33.8	33.5	37.0	39.4	39.1	41.1	40.7	39.9	39.7	36.6
1923	40.5	41.3	41.0	34.5	29.5	29.3	30.7	34.7	40.3	38.9	39.4	41.4	36.8

Division of Statistical and Historical Research.

[1] From November, 1882, to October, 1905, quotations fixed by Butter Traders' Association. Conversions from Danish quotations in ore per pund (1.1023 pound) at par of exchange (100 ore=26.8 cents) to July, 1914.

[2] During November, 1905, and subsequent 11 months, quotations represent prices paid creameries as reported to the statistical bureau of the Federal Creameries Associations.

[3] Beginning of official Copenhagen butter quotations.

[4] Conversions July, 1914, to date at average monthly exchange rate as quoted by Federal Reserve Board.

TABLE 451.—*American cheese: Production in the United States, 1917–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1917	8,519	9,415	11,918	17,577	28,932	38,790	35,296	32,248	37,613	22,303	14,262	8,070	264,949
1918	8,143	7,860	11,992	17,931	31,285	40,184	34,332	29,990	25,424	18,862	12,172	9,097	247,276
1919	10,956	11,855	14,009	21,642	34,849	44,599	35,465	30,940	26,257	20,114	13,107	10,044	321,937
1920	10,457	11,509	14,954	18,856	29,832	41,376	34,313	29,787	22,935	20,064	13,208	10,303	264,594
1921	11,889	12,857	17,678	26,521	34,556	36,444	26,977	27,652	23,612	21,496	13,426	11,618	285,726
1922	12,837	13,927	18,774	31,740	31,349	36,254	33,265	29,496	25,561	25,785	18,382	15,416	302,806
1923	13,596	13,813	18,150	20,788	28,477	35,645	35,612	29,471	26,556				

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

TABLE 452.—*Cheese: Monthly receipts at four markets, 1918–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
New York:													
1918				2,844	3,399	5,950	6,687	4,956	3,670	5,123	3,833	4,156	41,118
1919	3,479	3,178	4,308	5,114	7,098	7,675	6,972	5,428	7,121	3,867	4,021	4,294	62,045
1920	3,337	2,431	3,808	1,398	4,698	6,152	5,708	5,278	3,488	3,208	3,755	3,762	47,008
1921	3,274	3,337	2,888	4,668	6,008	5,857	6,655	4,772	4,308	4,415	3,657	2,753	51,982
1922	2,738	2,775	4,963	4,467	5,047	6,376	5,379	4,942	3,942	3,866	3,607	3,207	50,109
1923	2,908	3,385	4,340	4,196	4,610	5,208	6,110	4,757	3,845	3,791	3,544	2,731	49,425
Chicago:													
1918				5,549	4,958	7,614	8,536	6,675	6,016	5,585	4,634	5,019	54,536
1919	5,925	4,854	5,495	6,287	7,333	9,778	8,539	8,322	7,302	6,648	5,073	4,902	81,018
1920	5,328	5,100	7,069	5,067	7,744	11,194	9,188	6,599	5,707	6,255	6,795	5,556	81,597
1921	6,042	5,428	7,147	6,840	9,290	9,833	7,111	6,930	6,734	8,091	6,147	6,261	85,848
1922	5,940	6,139	8,098	7,875	10,262	11,284	10,121	10,669	9,419	10,452	8,893	8,477	107,724
1923	7,775	7,243	8,125	9,053	10,745	15,039	13,874	11,750	10,652	12,608	9,216	7,566	123,646
Philadelphia:													
1918				629	1,228	1,148	2,315	1,389	939	1,261	706	877	10,492
1919	539	881	1,529	1,654	1,965	2,237	2,152	1,704	1,740	2,887	2,930	1,185	21,393
1920	878	1,040	1,489	626	1,743	2,104	1,657	2,189	1,362	1,130	1,431	1,221	16,865
1921	1,116	1,064	1,290	1,396	2,228	2,602	2,490	2,311	2,066	1,920	1,369	1,094	20,951
1922	1,144	1,120	1,506	1,523	1,750	1,827	1,846	1,887	1,815	2,101	1,738	1,067	19,324
1923	964	962	1,236	1,297	1,361	1,915	2,114	2,000	1,972	2,217	1,810	995	18,363
Boston:													
1918				453	1,462	2,559	2,305	1,721	972	779	574	365	11,190
1919	351	517	1,100	1,088	2,000	2,374	2,897	2,091	1,422	1,859	1,231	791	17,721
1920	620	274	522	511	948	1,422	2,290	1,749	1,343	1,479	1,256	483	12,997
1921	435	574	691	685	976	2,503	1,701	1,173	1,202	1,456	1,249	501	13,206
1922	407	590	663	1,005	1,201	2,220	1,963	1,461	1,410	1,104	910	587	13,521
1923	828	436	947	1,020	1,195	2,074	2,304	1,936	1,165	1,777	1,302	921	15,914
Total 4 markets:													
1918				9,475	11,547	17,271	19,843	14,741	11,597	12,698	9,747	10,417	117,336
1919	10,294	9,425	12,517	14,143	18,396	21,454	20,560	17,545	17,645	14,761	13,855	11,172	182,177
1920	10,158	8,845	12,983	7,602	15,128	20,872	18,833	15,815	11,895	12,072	13,237	11,022	158,462
1921	10,867	10,396	12,001	12,989	18,494	20,794	17,957	15,186	14,310	15,882	12,422	10,609	171,989
1922	10,229	10,624	14,325	14,870	18,260	21,807	19,309	18,959	16,586	17,523	15,148	13,338	190,678
1923	12,475	12,046	14,648	15,575	17,911	24,236	24,402	20,443	17,634	20,393	15,372	12,213	207,348

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

TABLE 453.—*Cheese: Receipts at five markets, by States of origin, 1923.*

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Chicago	158	113	171	125	69	143	137	179	99	142	236	319	1,891
Illinois	79	71	173	92	186	408	322	154	134	314	57	------	1,990
Maine	2	1	1	26	4	------	------	------	------	------	4	------	38
Massachusetts	------	------	------	23	------	1	------	1	------	------	------	2	27
Michigan	------	------	4	------	------	64	103	------	------	------	------	------	191
New Hampshire	15	9	9	16	2	2	------	------	------	1	------	2	50
New York	302	160	355	363	556	789	1,075	905	579	719	677	453	6,943
New York City	38	11	1	31	55	46	7	120	66	44	34	6	459
Ohio	------	------	------	------	3	1	1	------	------	14	1	3	23
Pennsylvania	14	9	16	9	13	11	16	20	14	18	17	17	174
Philadelphia	4	------	3	------	1	------	------	------	------	------	------	2	10
Vermont	18	17	43	50	109	94	119	39	2	67	27	18	623
Wisconsin	192	35	164	290	155	461	522	498	271	458	248	98	3,392
Other States	6	11	6	9	32	33	1	------	2	1	1	------	102

NEW YORK.

Illinois	560	1,086	763	688	993	631	729	474	793	543	670	605	8,535
Indiana	------	------	------	------	2	30	1	5	74	------	143	22	277
Iowa	1	36	6	------	69	------	------	43	47	------	4	------	206
Maryland	------	------	35	1	------	------	------	37	29	------	------	------	102
Massachusetts	24	11	29	24	20	2	46	17	9	20	9	11	223
Michigan	4	6	29	53	14	90	107	88	52	141	30	5	619
Minnesota	------	5	52	21	33	31	------	71	------	------	------	36	249
Missouri	------	13	------	1	------	51	70	22	------	2	------	11	170
New Hampshire	3	1	------	------	14	------	16	------	------	------	------	14	48
New Jersey	4	4	12	5	5	2	1	2	------	2	1	2	40
New York	1,046	1,073	1,226	1,525	1,630	1,631	1,879	1,567	1,217	1,348	1,426	1,332	16,900
Ohio	133	21	21	2	------	3	8	63	28	40	------	9	331
Pennsylvania	56	112	112	61	201	94	99	40	72	51	32	25	955
Vermont	------	1	3	70	141	31	1	29	------	29	------	------	305
Washington	------	51	------	------	------	55	26	------	42	------	------	------	174
Wisconsin	1,072	957	2,040	1,737	1,455	2,267	3,077	2,297	1,472	1,801	1,149	654	19,788
Canada	3	3	3	4	5	305	42	1	3	3	49	5	423
Other States	4	1	11	4	19	4	10	------	11	4	33	------	101

TABLE 453.—*Cheese: Receipts at five markets, by States of origin, 1923*—Continued.

PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
Illinois	186	266	343	252	211	291	668	437	450	414	299	310	4,127
Indiana		50		39	47					5			142
Michigan						35	32		20	24			121
New Jersey	2		1				1			7	25		36
New York	329	234	419	347	336	277	404	489	423	513	396	371	4,558
Ohio	24				2	20	49	16				25	136
Pennsylvania	4	19	44	4	44	4	42	49	2	8	13	11	245
Wisconsin	416	408	425	654	720	1,246	898	904	1,051	1,218	576	278	8,884
Other States	4	5	3	2		42		15	26	28			125

CHICAGO.

Canada					28		12	110		24	24	48	246
Colorado	5								5		2	4	16
Idaho			49				37		65	17			168
Illinois	281	366	266	237	328	483	438	504	453	458	398	285	4,497
Indiana	5	6	6	2	2	5	15	6	3	5	5	6	66
Iowa	44	59	68	19	58	62	124	50	26	83	55	57	705
Kansas			23	1						24	3		51
Kentucky			5	21			1			1	1	2	31
Michigan	69	126	41	53	87	27	18	23	38	47	82	118	729
Minnesota	73	191	193	290	541	538	394	166	261	158	187	185	3,177
Missouri		15	2		1	1	2	52	6	2	1	1	83
Montana		2			2			24	43	63	31	38	203
Nebraska		1	10			8	26						45
New Jersey										24			24
New York	170	100	123	300	261	286	271	129	207	255	143	184	2,429
Ohio	21	2	3	14	4	2	6		38	1	27	29	147
Pennsylvania	3	148	13	22	64	2	1	1	1	28	5	1	289
South Dakota				3					13				16
Tennessee	21												21
Texas		1			13							1	15
Utah	14												14
Wisconsin	7,066	6,226	7,321	8,090	9,353	13,624	12,525	10,680	9,493	11,416	8,250	6,604	110,648
Other States	3	2	2		2	3	4	3		2	2	3	26

SAN FRANCISCO.

California	253	260	292	424	372	390	253	280	271	248	286	321	3,650
Colorado	11	21	15	21	11	19	23	18	19	21	27	16	222
Idaho					71	106	105	77		71	261	348	1,039
Illinois	114	117	171	89	64	148	180	184	194	55	94	31	1,441
Minnesota							23		31		4		63
Montana	27		29	30	31	30	72	74	45				338
New York					14	4	48	26	32	38	49	38	249
Oregon	56	76	98	244	426	315	290	181	135	306	296	144	2,557
Washington	1	8	11	9	2	43	19	12	1	3	3		112
Wisconsin	120	87	88	40	62	117	348	383	257	182	102	127	1,979
Other States		2		1	1		4	2		8	3	30	51

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

TABLE 454.—*Cheese: Cold storage holdings in United States, 1916–1923.*

AMERICAN CHEESE.

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1916	28,558	18,908	12,378	8,443	6,346	7,301	16,357	31,569	46,776	49,579	45,713	37,080
1917	31,855	22,113	15,560	9,842	7,926	11,026	24,159	67,595	91,545	90,671	78,087	75,166
1918	66,784	56,298	37,743	27,965	17,736	20,395	30,054	48,804	55,742	42,065	33,402	25,625
1919	19,823	15,486	9,837	6,750	6,027	12,478	37,501	62,645	76,661	81,359	72,889	62,508
1920	53,168	43,631	34,039	23,431	16,963	13,502	29,654	51,512	60,372	55,007	48,566	39,921
1921	34,115	25,000	17,477	14,294	13,466	17,814	34,948	41,284	46,635	45,163	42,969	34,055
1922	27,691	21,430	15,006	10,745	10,868	16,481	33,130	46,580	53,625	49,473	40,852	37,291
1923	33,617	26,593	20,693	14,465	14,077	17,507	36,834	55,839	63,960	62,384	57,927	55,105

TABLE 454.—*Cheese: Cold storage holdings in United States, 1916–1923*—Con.

ALL CHEESE OTHER THAN AMERICAN.

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1917									3,916	3,750	3,336	3,347
1918	2,836	2,197	2,093	2,013	2,202	2,602	5,171	7,988	13,229	12,734	10,963	11,848
1919	10,402	10,263	8,771	8,352	8,810	10,813	13,905	15,749	15,928	15,234	15,091	13,906
1920	11,526	10,785	9,617	8,713	8,642	9,839	14,849	18,522	19,886	19,975	20,526	18,879
1921	17,053	15,207	12,979	10,613	10,474	10,639	12,668	15,034	16,268	17,203	16,536	14,948
1922	13,904	11,571	10,471	8,594	8,112	8,588	10,412	11,188	13,250	13,450	12,963	11,329
1923	11,617	10,635	8,823	7,350	7,115	8,727	11,894	15,021	16,703	16,407	16,375	17,518

Division of Statistical and Historical Research.

TABLE 455.—*Cheese: International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Argentina	10,447	[1] 6	625	13,575	.....	12,513	.....	14,407
Australia	300	799	72	9,530	86	12,071	.....	.....
Bulgaria	[2] 63	5,584	.....	.....	.....	.....	.....	.....
Canada	1,054	167,260	480	142,768	906	137,180	687	120,177
Czechoslovakia	.....	.....	.....	.....	183	3,226	1,355	2,275
Denmark	1,414	527	132	21,281	521	27,653	1,214	19,673
Finland	478	2,086	2	2,108	3	4,686	.....	5,989
Italy	13,308	60,560	5,893	2,790	1,780	16,664	15,571	32,057
Netherlands	522	127,379	489	99,738	802	115,279	750	143,769
New Zealand	3	55,561	18	136,870	(3)	153,304	.....	130,054
Russia	3,911	7,011	.....	.....	.....	.....	.....	.....
Switzerland	7,150	70,075	4,368	3,202	1,894	10,596	1,792	46,152
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	6,592	138	5,126	150	5,778	170	7,195	.....
Austria	.....	.....	7,698	.....	7,342	.....	.....	.....
Austria-Hungary	12,208	966	.....	.....	.....	.....	.....	.....
Belgium	31,771	354	28,091	7,397	34,329	1,750	48,139	1,151
Brazil	4,178	[1] 1	1,224	4	148	8	.....	.....
British India	1,314	.....	1,509	.....	755	.....	1,072	.....
Cuba	4,520	7	5,554	(3)	.....	.....	.....	.....
Dutch East Indies	757	.....	1,336	.....	1,375	.....	[4] 1,249	.....
Egypt	8,152	[5] 48	1,657	48	3,452	165	6,793	102
France	49,056	26,880	25,289	15,130	35,146	14,381	60,272	22,023
Germany	48,687	1,967	50,344	173	[6] 39,848	[6] 1,022	51,984	2,235
Norway	663	377	3,147	165	1,157	256	1,541	658
Spain	5,032	53	3,748	354	4,504	689	4,222	453
Sweden	946	41	5,398	397	2,239	296	1,991	.....
Tunis	1,382	19	516	16	749	40	997	19
Union of South Africa	4,991	3	1,200	314	49	459	268	152
United Kingdom	257,407	950	305,832	454	312,783	479	294,951	591
United States	46,346	5,142	15,994	16,292	26,866	11,772	46,573	5,007
Other countries	12,585	4,330	5,737	414	4,078	821	1,556	863
Total	535,417	538,124	481,479	473,170	486,775	526,080	550,172	547,807

Division of Statistical and Historical Research. Official sources. All cheese made from milk, including "cottage cheese."

[1] Four-year average.
[2] Two-year average.
[3] Less than 500 pounds.
[4] Java and Madura only.
[5] One year.
[6] Eight months, May–December.

TABLE 456.—*Cheese, No. 1 American: Average wholesale price per pound, New York, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver-age.
1910	$0.17	$0.17	$0.17	$0.17	$0.14	$0.14	$0.15	$0.15	$0.15	$0.15	$0.15	$0.16	$0.16
1911	.15	.15	.14	.14	.11	.11	.12	.12	.14	.14	.15	.16	.14
1912	.16	.17	.18	.19	.15	.14	.15	.16	.16	.18	.17	.17	.16
1913	.17	.17	16.	.15	.13	.14	.14	.15	.16	.16	.16	.16	.15
1914	.17	.16	.18	.16	.14	.15	.15	.16	.16	.15	.15	.15	.16
1915	.15	.16	.16	.16	.17	.15	.15	.13	.14	.15	.16	.17	.15
1916	.17	.18	.18	.18	.18	.15	.15	.17	.19	.21	.23	.24	.19
1917	.24	.25	.26	.26	.26	.23	.24	.23	.25	.25	.23	.24	.24
1918	.24	.26	.24	.23	.24	.23	.25	.26	.28	.33	.32	.35	.27
1919	.35	.30	.32	.31	.32	.32	.33	.31	.31	.31	.32	.32	.32
1920	.32	.30	.29	.30	.30	.28	.27	.27	.28	.28	.28	.28	.29
Av. 1914–1920	.23	.23	.23	.23	.23	.22	.22	.22	.23	.24	.24	.25	.23
1921	.24	.21	.25	.22	.17	.16	.19	.21	.21	.22	.21	.21	.21
1922	.21	.20	.20	.18	.17	.19	.21	.21	.21	------	------	------	.20
1923	.28	.28	.25	.23	.23	.24	.25	.25	.26	.26	.25	------	25

Division of Statistical and Historical Research.

OLEOMARGARINE.

TABLE 457.—*Oleomargarine production and consumption in the United States, 1887–1923.*

Year ending June 30.	Production.	Stocks, beginning of year.	Exports.	Stocks, end of year.	Consumption.	
					Total.	Per capita.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1886–87	[1] 21,513,537	[2] 181,090	834,574	423,855	20,436,198	0.35
1887–88	34,325,527	423,855	1,720,327	1,575,293	31,444,762	.53
1888–89	35,664,026	1,575,293	2,192,047	1,978,004	33,069,178	.54
1889–90	32,324,032	1,978,004	2,535,926	978,650	30,787,550	.49
1890–91	44,392,409	978,650	1,986,743	779,368	42,604,948	.67
1891–92	44,365,155	779,368	1,610,837	1,021,555	42,512,131	.65
1892–93	67,224,298	1,021,555	3,479,322	322,911	64,443,620	.97
1893–94	69,622,246	322,911	3,898,950	437,287	65,608,920	.97
1894–95	56,958,105	437,287	10,100,897	393,597	46,900,898	.68
1895–96	50,853,234	393,597	6,063,699	396,404	44,786,728	.64
1896–97	45,531,207	396,404	4,864,351	223,308	40,839,892	.57
1897–98	57,516,136	223,308	4,326,536	444,745	52,966,163	.73
1898–99	83,130,474	444,745	5,549,322	787,503	77,238,394	1.04
1899–1900	107,045,028	787,503	4,256,007	817,806	102,758,658	1.36
1900–1	104,943,856	817,806	4,998,690	722,237	100,048,726	1.30
1901–2	126,316,427	722,237	5,721,254	----------	121,317,410	1.54
1902–3	73,285,946	----------	7,645,652	653,174	64,987,120	.81
1903–4	50,203,495	653,174	6,137,261	490,822	44,228,596	.54
1904–5	52,011,716	490,822	7,863,164	600,060	44,039,314	.53
1905–6	55,434,900	600,060	11,794,174	483,780	43,757,006	.51
1906–7	71,366,775	483,780	5,397,609	700,823	65,752,123	.76
1907–8	74,188,320	700,823	2,938,175	692,225	71,258,743	.81
1908–9	92,282,815	692,225	2,889,058	748,318	89,337,664	.99
1909–10	141,802,280	748,318	3,418,632	1,165,446	138,026,520	1.51
1910–11	121,162,795	1,165,446	3,794,939	942,440	117,590,862	1.26
1911–12	128,601,053	942,440	3,627,425	1,249,246	124,666,822	1.32
1912–13	145,227,862	1,249,246	2,967,582	1,650,897	141,858,629	1.48
1913–14	144,021,276	1,650,897	2,532,821	1,261,245	141,878,107	1.46
1914–15	145,810,048	1,261,245	5,252,183	1,661,559	140,157,551	1.42
1915–16	152,509,913	1,661,559	5,426,221	1,992,726	146,752,525	1.47
1916–17	233,170,111	1,992,726	5,651,267	2,988,197	226,523,373	2.23
1917–18	326,528,839	2,988,197	6,309,996	3,577,733	319,629,407	3.11
1918–19	359,216,571	3,577,733	18,570,400	2,502,597	341,661,307	3.28
1919–20	391,283,143	2,562,597	20,952,180	4,110,174	368,783,386	3.49
1920–21	281,081,514	4,110,174	6,219,165	1,979,543	276,992,980	2.59
1921–22	190,950,373	1,979,543	1,989,421	2,265,895	188,674,600	1.74
1922–23	209,182,188	2,265,895	2,027,546	2,647,297	206,773,240	1.88

Division of Statistical and Historical Research. Production and stocks from Bureau of Internal Revenue. Exports from Bureau of Foreign and Domestic Commerce.

[1] Eight months, Nov. 1, 1886–June 30, 1887. [2] Stocks on Nov. 1, 1886.

TABLE 458.—*Oleomargarine: Production in the United States, 1918–1923.*

Calendar year.	Uncolored; made of—			Colored; made of—			Total.
	Animal and vegetable oil.	Exclusively vegetable oil.	Exclusively animal oil.	Animal and vegetable oil.	Exclusively vegetable oil.	Exclusively animal oil.	
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1918	255,197	88,862	3,307	7,056	112	1,003	355,537
1919	214,759	132,906	3,391	9,303	9,793	1,165	371,317
1920	161,636	190,286	3,843	8,951	5,359	94	370,163
1921	103,962	99,265	624	5,960	2,026	30	211,867
1922	104,284	74,128	302	4,977	1,383	1	185,075
1923	121,272	93,972	450	7,078	2,808	.....	225,580
1923.							
January	10,484	9,393	23	653	225	.....	20,778
February	9,715	8,248	17	557	217	.....	18,754
March	10,918	8,931	29	631	256	.....	20,765
April	10,009	7,886	28	610	245	.....	18,778
May	9,860	6,576	15	627	220	.....	17,298
June	7,946	5,483	46	451	183	.....	14,109
July	7,902	4,881	25	441	160	.....	13,409
August	9,696	5,716	74	502	178	.....	16,166
September	10,575	7,603	46	593	237	.....	19,054
October	11,492	9,869	39	656	281	.....	22,337
November	11,586	9,640	60	622	297	.....	22,205
December	11,089	9,746	48	735	309	.....	21,927

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

TABLE 459.—*Oleomargarine: Production in the United States, 1908–1922.*

COLORED.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1908–9	393	333	360	468	463	567	526	497	586	543	507	447	5,710
1909–10	381	433	487	519	521	634	525	518	619	595	542	403	6,177
1910–11	414	433	469	473	610	587	524	501	606	463	389	362	5 831
1911–12	359	454	393	477	539	594	663	630	614	588	538	387	6, 236
1912–13	449	394	439	530	501	616	602	618	638	701	586	446	6 520
1913–14	477	493	532	635	606	615	610	503	606	477	433	395	6, 384
Av. 1909–1913	416	441	464	527	555	609	585	554	617	565	498	399	6, 230
1914–15	422	500	488	480	472	583	807	1, 062	1, 131	598	526	497	7, 595
1915–16	472	436	443	548	557	597	560	569	684	677	652	554	6, 749
1916–17	447	569	643	719	741	759	703	628	742	738	731	592	8, 012
1917–18	496	512	573	677	542	521	508	471	615	582	587	511	6, 595
1918–19	408	433	538	608	552	747	1, 111	1, 642	2, 243	2, 716	1, 930	921	13, 849
1919–20	1, 705	1, 807	681	1, 067	1, 719	1, 626	1, 540	960	1, 250	1, 139	1, 114	998	15, 624
1920–21	934	1, 019	1, 484	1, 378	1, 368	1, 046	936	816	950	823	518	328	11, 600
Av. 1914–1920	698	755	693	785	850	840	881	881	1, 088	1, 039	865	628	10, 003
1921–22	424	500	577	692	693	656	556	482	595	498	513	418	6, 604
1922–23	415	420	488	565	670	790	772	801	917	854	906	669	8, 260

TABLE 459.—*Oleomargarine: Production in the United States, 1908–1922*—Con.

UNCOLORED.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1908–9	4,394	4,669	5,812	7,907	8,266	8,463	8,470	8,453	9,697	7,976	6,707	5,759	86,573
1909–10	5,499	6,386	9,809	12,497	13,313	15,314	15,516	12,639	13,459	12,747	10,175	8,334	135,085
1910–11	6,902	9,307	12,702	12,627	13,523	13,002	10,885	8,930	9,676	6,866	5,424	5,182	115,342
1911–12	4,788	6,701	7,816	9,245	11,228	12,652	15,639	13,738	11,654	10,988	10,629	7,287	122,365
1912–13	6,785	8,526	9,397	13,807	12,023	14,802	13,199	13,213	13,139	13,892	11,036	8,288	138,707
1913–14	7,947	8,754	12,790	14,786	13,777	14,277	14,485	12,888	12,317	9,724	8,305	7,587	137,037
Av. 1909–1913	6,384	7,935	10,503	12,502	12,953	14,009	13,945	12,283	12,048	10,843	9,114	7,336	129,945
1914–15	7,847	9,502	12,036	13,120	13,319	14,063	12,516	12,371	12,910	10,785	10,319	9,436	138,215
1915–16	8,711	9,183	10,491	12,394	11,782	13,380	11,993	13,084	15,243	13,974	13,746	11,830	145,761
1916–17	8,948	11,272	15,516	19,246	21,899	23,287	18,272	19,503	22,128	22,740	24,314	17,943	225,158
1917–18	16,490	19,519	26,181	33,374	29,009	30,227	32,496	35,855	31,512	22,913	23,410	18,949	319,934
1918–19	19,888	17,959	28,428	43,543	32,434	36,662	40,166	19,741	27,431	31,448	29,135	18,533	345,368
1919–20	22,700	25,168	26,424	34,357	35,502	39,005	35,312	31,701	36,337	30,667	34,700	23,726	375,659
1920–21	23,625	25,516	29,899	29,918	29,089	24,705	22,630	20,773	22,532	18,685	13,537	8,572	269,481
Av. 1914–1920	15,458	16,874	21,282	26,565	24,718	25,004	24,769	21,867	24,013	21,602	21,317	15,570	259,939
1921–22	10,581	16,612	16,920	20,588	17,985	17,754	15,610	14,139	15,375	13,432	13,356	11,994	184,346
1922–23	11,866	12,623	13,684	17,380	18,615	20,269	20,105	17,889	20,187	18,083	16,090	13,582	200,923

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Internal Revenue.

TABLE 460.—*Oleomargarine: Materials used in manufacture, 1915–1922.*

Material.	Year beginning July 1.							
	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Oleo oil	68,989	96,652	96,378	97,464	89,842	49,676	40,980	46,645
Coconut oil	563	19,763	61,773	69,640	80,784	103,112	57,394	65,656
Cottonseed oil	49,960	63,652	36,454	37,846	39,450	18,533	15,420	18,757
Milk	21,331	24,410	61,128	68,000	76,000	79,716	53,939	59,835
Peanut oil	5,335	10,498	21,593	38,764	48,346	16,332	11,625	6,922
Salt	4,088	6,115	18,279	21,432	24,864	25,365	16,262	17,998
Oleo stearine	2,036	2,494	3,427	2,456	2,132	4,858	4,574	4,815
Neutral lard	33,446	42,401	45,792	45,764	38,456	29,268	27,057	29,568
Oleo stock	397	3,458	7,526	6,342	5,804	2,065	2,143	2,322
Butter	2,152	3,303	4,548	5,680	6,845	1,499	1,107	1,576
Vegetable oil						6,559		
Corn oil	147	859	60	40	35	926		
Soya-bean oil						401		
Edible tallow						233		
Mustard-seed oil						110		
Mutton oil		149	14	11	14			
Coloring						26	11	11
Miscellaneous						3,217	3,417	2,918
Total	188,444	273,754	356,883	393,439	412,572	341,956	233,929	257,023

Division of Statistical and Historical Research. 1915–1919 Institute Margarine Manufacturers. 1920–1922, Bureau of Internal Revenue.

OLEO OIL.

TABLE 461.—*Oleo oil: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	Belgium.	Germany.	Italy.	Netherlands.	Sweden.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Newfoundland and Labrador.	Other countries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10[1]	720	29,792	595	47,115	2,178	21,147	20,518	122,065	-------	2,526	1,301	125,892
1910–11	1,741	28,571	766	67,691	2,140	9,255	24,013	134,777	-------	1,532	2,388	138,697
1911–12	2,720	18,042	903	66,894	3,128	9,900	20,725	122,372	-------	1,712	2,383	126,467
1912–13	1,590	17,481	402	46,337	2,145	8,009	14,633	90,597	54	1,372	827	92,850
1913–14	2,819	16,180	434	47,414	1,989	9,244	16,221	94,301	339	1,244	1,133	97,017
1914–15	545	1,001	337	32,768	4,190	14,362	25,599	78,802	226	1,030	424	80,482
1915–16	-------	-------	3,234	29,762	9,234	30,658	26,099	98,987	37	1,896	1,726	102,646
1916–17	-------	-------	760	8,082	2,248	31,761	21,498	64,349	476	1,761	524	67,110
1917–18	-------	-------	68	-------	13	48,244	2,028	50,353	4,347	1,624	279	56,603
1918–19	6,759	768	74	30	3,800	27,929	16,769	56,180	-------	1,612	1,500	59,292
1919–20	2,083	2,982	539	13,819	3,315	19,227	25,847	67,812	2,671	1,993	2,053	74,529
1920–21	1,370	15,983	798	36,107	3,945	14,273	29,195	101,671	852	1,662	2,239	106,415
1921–22	1,472	14,878	514	46,630	2,677	11,082	35,928	113,181	234	1,168	2,591	117,174
1922–23	1,666	13,987	892	47,053	2,383	14,967	20,552	101,500	275	1,522	1,659	104,956

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of the Bureau of Foreign and Domestic Commerce.

[1] Includes "Neutral lard."

TABLE 462.—*Creameries: Farmers' associations reporting, membership, 1923, and volume of business for 1922.*

Geographic division and State.	Number reporting, 1923.	Number reporting membership, 1923.	Number members reported, 1923.	Average membership per association, 1923.	Number reporting volume of business, 1922.	Amount of business reported, 1922.	Average amount of business per association, 1922.
Maine	5	4	262	65.5	4	$342,000	85,500
Vermont	35	32	3,334	104.1	30	4,049,600	134,986
Massachusetts	5	5	309	61.8	5	255,000	51,000
Rhode Island	1	1	50	50.0	1	100,000	100,000
Connecticut	6	5	333	66.6	4	220,000	55,000
New England	52	47	4,288	91.2	44	4,966,600	112,863
New York	22	20	1,606	80.3	15	1,375,000	91,666
Pennsylvania	34	32	2,237	69.9	31	2,452,000	79,096
Middle Atlantic	56	52	3,843	73.9	46	3,827,000	83,195
Ohio	10	9	408	45.3	10	898,000	89,800
Indiana	8	7	971	138.7	7	678,000	96,857
Illinois	4	4	324	81.0	3	281,000	93,666
Michigan	65	62	14,599	235.3	59	6,417,000	108,762
Wisconsin	212	197	28,643	145.3	198	27,636,000	143,191
East North Central	299	279	44,945	161.0	272	35,910,000	132,022
Minnesota	510	472	62,367	132.1	460	41,009,000	89,150
Iowa	216	199	29,026	145.8	195	19,106,000	97,979
Missouri	7	6	902	150.3	6	634,000	105,666
North Dakota	8	7	936	133.7	8	379,000	47,375
South Dakota	25	20	7,993	399.6	20	1,565,000	78,250
Nebraska	11	11	10,689	971.7	11	2,566,600	23,327
Kansas	1	1	507	507.0	1	83,000	83,000
West North Central	778	716	112,420	157.0	701	65,342,000	93,212
Delaware	1	1	17	17.0	1	15,000	15,000
Virginia	5	5	883	176.6	5	393,000	78,600
North Carolina	1	1	31	31.0	1	79,000	79,000
Florida	1	1	76	76.0	1	56,000	56,000
South Atlantic	8	8	1,007	125.8	8	543,000	67,875

TABLE 462.—*Creameries: Farmers' associations reporting, membership, 1923, and volume of business for 1922*—Continued.

Geographic division and State.	Number reporting, 1923.	Number reporting membership, 1923.	Number members reported, 1923.	Average membership per association, 1923.	Number reporting volume of business, 1922.	Amount of business reported, 1922.	Average amount of business per association, 1922.
Kentucky	2	2	288	144.0	2	46,000	23,000
Tennessee	13	12	3,157	263.0	12	1,473,000	122,750
Alabama	2	1	114	114.0	1	51,000	51,000
Mississippi	2	2	114	57.0	2	342,000	171,000
East South Central	19	17	3,673	216.0	17	1,912,000	112,470
Texas	2	2	68	34.0	2	147,000	73,500
West South Central	2	2	68	34.0	2	147,000	73,500
Montana	4	4	286	71.5	3	238,000	79,333
Idaho	6	6	3,937	656.1	6	1,516,000	252,666
Wyoming	1	1	66	66.0	1	23,000	23,000
Colorado	8	6	1,156	192.6	6	808,000	134,666
Utah	2	2	78	39.0	1	9	9,000
Mountain	21	19	5,523	290.6	17	2,594,000	152,588
Washington	11	9	1,459	162.1	8	760,000	95,001
Oregon	11	9	2,538	282.0	9	1,426,000	158,444
California	16	15	5,953	396.8	15	10,277,000	685,133
Pacific	38	33	9,950	301.5	32	12,463,000	389,468
United States	1,273	1,173	185,717	158.3	1,139	127,704,000	112,119

Division of Agricultural Cooperation. States omitted made no reports.

CATTLE DISEASES.

TABLE 463.—*Cattle: Tuberculin testing under accredited herd plan, 1917–1923.*

Year ending June 30.	Cattle tested.[1]	Number of reactors.	Per cent of reactors.	Accredited.		Passed one test.	
				Herds.	Cattle.	Herds.	Cattle.
1916–17	20,101	645	3.2				
1917–18	134,143	6,544	4.9	204	6,945	883	22,212
1918–19	329,878	13,528	4.1	578	12,076	5,652	95,031
1919–20	700,670	28,709	4.1	2,588	63,965	9,064	80,334
1920–21	1,366,358	53,768	3.9	4,831	110,634	34,215	445,656
1921–22	2,384,236	82,569	3.5	8,015	170,282	111,719	904,950
1922–23	3,460,849	113,844	3.3	12,310	251,254	150,748	1,176,314
Total	8,396,235	299,607	3.6	28,526	615,156	312,281	2,724,497

Bureau of Animal Industry.

[1] Includes testing under area plan.

TABLE 464.—*Cattle: Status of tuberculosis eradication work, by States, June 30, 1923.*

State.	Accredited.		Passed one test.		Eradication from areas.[1]				Total tuberculin tests, 1917 to July 1, 1923.		
	Herds.	Cattle.	Herds.	Cattle.	Counties having completed one or more tests of all cattle.	Counties intensively engaged in testing cattle.	Total counties engaged.	Cattle tested.[2]	Total cattle.	Reactors. Number.	Reactors. Per cent.
Alabama	120	4,834	878	19,599					107,751	1,416	1.3
Arizona	0	0	489	13,307	1	2	3	14,206	20,769	1,002	4.8
Arkansas	45	1,440	168	1,004					2,534	37	1.5
California	4	79	1,697	80,585		3	3	106,942	116,620	802	0.7
Colorado	4	221	62	1,496					5,031	224	4.5
Connecticut	247	5,211	918	17,016					67,287	8,828	13.1
Delaware	517	2,534	1,089	4,360					36,183	3,868	10.7
Dist. Columbia	30	797	313	342	1		1	1,568	9,081	111	1.2
Florida	179	6,368	3,952	29,959					94,103	1,823	1.9
Georgia	40	2,900	2,535	40,196					78,904	1,651	2.1
Idaho	141	4,422	8,675	83,622	2	2	4	104,523	172,682	2,214	1.3
Illinois	429	9,780	928	18,317	1	5	6	78,726	220,627	13,846	6.3
Indiana	3,425	50,292	16,166	117,491	2	5	7	76,923	341,648	9,227	2.7
Iowa	1,982	50,637	5,123	81,692		3	3	47,529	424,797	23,067	5.4
Kansas	659	20,256	455	12,759				15,162	136,332	2,787	2.0
Kentucky	232	6,654	14,807	89,912		4	4	75,527	157,683	3,283	2.1
Louisiana	103	5,407	834	17,080					64,541	2,421	3.8
Maine	1,344	13,146	11,822	95,281		12	12	72,137	136,804	2,923	2.1
Maryland	513	10,171	2,484	22,631	1		1	30,354	127,625	10,210	8.0
Massachusetts	89	3,197	194	3,432					47,454	4,906	10.3
Michigan	467	9,379	27,954	205,200	8	6	14	328,387	504,121	13,550	2.7
Minnesota	2,613	57,544	2,408	46,066					392,494	10,919	2.8
Mississippi	161	4,525	387	12,168	3	0	3	2,929	126,617	679	0.5
Missouri	534	18,456	36,021	338,118	12	6	18	227,447	484,563	4,892	1.0
Montana	135	8,018	13,775	195,198	2	3	5	159,698	325,041	4,573	1.4
Nebraska	387	13,464	11,858	142,332	4	8	12	152,577	285,079	7,488	2.6
Nevada	13	1,282	1,651	10,945				18,559	46,065	1,208	2.8
New Hampshire	229	4,750	1,383	12,129					52,814	4,319	8.2
New Jersey	143	8,094	253	2,167					65,330	4,604	7.0
New Mexico	2	65	1,506	12,123		1	1	11,660	13,903	87	0.6
New York	1,429	28,611	11,095	130,133	2	12	14	197,222	471,408	62,309	13.2
North Carolina	51	2,381	63,114	187,514	10	11	21	161,365	226,638	2,071	0.9
North Dakota	1,354	30,312	5,429	91,317	1	0	1	34,058	262,614	6,813	2.6
Ohio	1,066	18,942	2,950	34,494				4,640	168,456	7,113	4.2
Oklahoma	372	11,162	214	6,845					106,418	3,093	2.9
Oregon	222	5,602	14,014	124,342	10	2	12	84,292	234,727	4,550	1.9
Pennsylvania	1,959	32,323	6,243	61,270	1	2	3	39,760	237,631	11,579	4.9
Rhode Island	18	442	17	339					6,320	550	8.8
South Carolina	127	4,349	898	11,123					66,328	927	1.4
South Dakota	257	6,916	335	10,641					79,005	3,634	4.6
Tennessee	291	10,161	577	13,338	2		2	66,012	161,160	1,243	0.8
Texas	109	6,914	154	4,690					103,566	1,638	1.6
Utah	99	3,014	7,211	32,301	1	3	4	35,979	94,243	1,116	1.2
Vermont	1,846	32,240	1,414	22,813					263,335	16,314	6.2
Virginia	957	21,138	1,119	14,743	1	1	2	7,684	207,175	5,549	2.7
Washington	142	4,405	14,996	110,011	4	13	17	85,102	206,966	6,123	2.3
West Virginia	360	7,628	3,906	25,655	1	0	1	15,837	68,957	1,644	2.4
Wisconsin	3,061	69,236	3,548	66,358	11	0	11	111,042	638,434	15,462	2.4
Wyoming	7	457	4,235	50,049		13	13	40,532	62,828	631	1.0
Indian schools[3]									413	27	6.5
Purebred herds in U. S.[3]									4,486	157	3.5
Total	28,526	615,156	312,281	2,724,497	81	117	198	2,407,659	8,396,235	269,607	3.6

Bureau of Animal Industry.

[1] Accredited work begun in 1917; area work in 1921.
[2] Includes area testing in units smaller than counties.
[3] Testing in 1917 before work was organized by States.

TABLE 465.—*Cattle: Tick eradication, progress and status of the work June 30, 1923.*

State.	Counties quarantined July 1, 1906.	Counties quarantined June 30, 1923.	Released counties.			Cattle dipped, year ending June 30, 1923.[1]	
			Released counties tick free.	Released counties with one or more infested herds.	Total counties released.	Herds.	Cattle.
Alabama	67	5	18	44	62	729,405	4,464,744
Arkansas	75	42	15	18	33	392,633	2,566,296
California	15	0	15	0	15		
Florida	58	54	3	1	4	54,052	314,975
Georgia	157	9	104	44	148	367,435	5,284,361
Kentucky	2	0	2	0	2		
Louisiana	65	32	3	30	33	301,270	4,905,933
Mississippi	81	21	37	23	60	240,122	2,485,507
Missouri	4	0	1	3	4		
North Carolina	75	19	46	10	56	44,298	198,735
Oklahoma	61	6	36	19	55	213,969	1,978,338
South Carolina	44	0	30	14	44	141,879	826,169
Tennessee	42	0	41	1	42	9,291	62,320
Texas	199	90	42	67	109	2,055,976	51,846,290
Virginia	30	4	26	0	26	442	4,021
15 States	975	282	419	274	693	4,550,772	74,937,657

Bureau of Animal Industry. [1] More than 31,000 vats were in use for official dipping during the year.

CATTLE FEEDING.

TABLE 466.—*Cattle: Variation in price paid by farmers for feeder cattle, 1921-22.*

State, and range of prices.	Number of head.					
	Heavy.	Medium.	Yearlings.	Calves.	Other cattle.	All cattle.
Indiana:						
$4.00-$5.00		120	139	54	123	436
$5.00-$6.00	462	859	199	68	55	1,643
$6.00-$7.00	595	1,113	176	371		2,255
$7.00-$8.00	84	86	72	239		481
$8.00-$9.00	30					30
$9.00-$10.00		32				32
Average price paid	$6.08	$6.04	$6.04	$6.53	$4.48	$6.02
Illinois:						
$3.00-$4.00		98	35		77	205
$4.00-$5.00	44	649	436	25	62	1,216
$5.00-$6.00	198	946	633	247		2,024
$6.00-$7.00	67	262	101	80		510
$7.00-$8.00	95	99	25	28		247
$8.00-$9.00						
Average price paid	$6.16	$5.30	$5.19	$5.80	$3.92	$5.36
Iowa:						
$3.00-$4.00					111	111
$4.00-$5.00	37	50				87
$5.00-$6.00	277	1,105	319	145	210	2,056
$6.00-$7.00	311	785	566	337	129	2,128
$7.00-$8.00	79	40	117	99		335
$8.00-$9.00						
Average price paid	$5.91	$5.85	$6.29	$6.48	$5.13	$5.91
Nebraska:						
$3.00-$4.00					88	89
$4.00-$5.00			22		88	110
$5.00-$6.00	597	606	371	77	30	1,681
$6.00-$7.00	341	622	505	293	161	1,922
$7.00-$8.00	136	45	131	53		365
$8.00-$9.00		38	18			56
Average price paid	$6.15	$6.08	$6.12	$6.48	$5.01	$6.08
Missouri:						
$4.00-$5.00	21	459	240	109		829
$5.00-$6.00	49	1,144	539	222		1,954
$6.00-$7.00	50	893	270	100		1,313
$7.00-$8.00	132	176	155	139		602
$8.00-$9.00	42	174				216
Average price paid	$6.77	$5.93	$5.66	$6.04		$5.95

Division of Cost of Production.

TABLE 467.—*Cattle: Average quantities of feed and other factors used in the production of 100 pounds gain in corn-fed cattle, 1919–1921.*

EAST CENTRAL INDIANA.

Item.	Winter 1919–20.	Winter 1920–21.	Items.	Winter 1919–20.	Winter 1920–21.
Feeds consumed:			Days on pasture	14	14
Corn, shelled basis..pounds..	553	679	Straw and bedding.....pounds..	347	326
Rye.....do....	1	------	Labor:		
Oats.....do....	7	12	Man hours	4.8	4.97
Linseed meal.....do....	2	1	Horse hours	1.5	2.05
Cottonseed meal.....do....	41	40	The per cent which all other expenses were of feed and labor costs [1]	16.5	28.6
Molasses feed.....do....	6	1	Feed lot by-products:		
Miscellaneous concentrates [1]..pounds..	22	[2]	Pounds of pork	21.0	24.7
Alfalfa hay.....do....	5	5	Loads of manure	1.5	1.4
Clover hay.....do....	60	64			
Mixed hay.....do....	35	35			
Timothy hay.....do....	9	[2]			
Corn Stover and fodder..do....	119	224			
Silage.....do....	1,474	1,281			

DEKALB COUNTY, ILL.

Feeds consumed:			Days on pasture	10	11
Corn, shelled basis..pounds..	573	590	Straw and bedding	859	653
Barley.....do....	2	1	Labor:		
Oats.....do....	2	5	Man hours	5.7	4.8
Cottonseed meal.....do....	36	34	Horse hours	3.1	2.9
Linseed meal.....do....	23	17	The per cent which all other expenses were of feed and labor costs [1]	11.5	24.2
Molasses feed.....do....	15	4	Feedlot by-products:		
Alfalfa hay.....do....	18	17	Pounds of pork	19.7	13.1
Clover hay.....do....	168	65	Loads of manure	2.3	2.0
Mixed hay.....do....	109	117			
Prairie hay.....do....	------	[2]			
Timothy hay.....do....	15	7			
Corn stover and fodder..do....	48	139			
Silage.....do....	2,426	1,771			

POTTAWATTAMIE AND SHELBY COUNTIES, IOWA.

Feeds consumed:			Days on pasture	17	19
Corn, shelled basis..pounds..	808	890	Straw and bedding.....pounds..	80	89
Oats.....do....	11	18	Labor:		
Barley.....do....	------	1	Man hours	2.6	2.3
Cottonseed meal.....do....	[2]	2	Horse hours	2.2	1.5
Linseed meal.....do....	4	3	The per cent which all other expenses were of feed and labor costs [1]	12.4	29.8
Molasses meal.....do....	16	9	Feed lot by-products:		
Miscellaneous concentrates ..pounds..	[2]	2	Pounds of pork	45.5	25.7
Alfalfa hay.....do....	146	138	Loads of manure	.9	.5
Clover hay.....do....	43	75			
Mixed hay.....do....	80	27			
Prairie hay.....do....	7	[2]			
Timothy hay.....do....	3	5			
Corn stover and fodder..do....	34	16			
Silage.....do....	373	78			

[1] Consisting principally of Schumacher feed and molasses.
[2] Less than one-half pound.
[3] Including interest, equipment charge, death loss, veterinary, insurance, taxes, incidentals, and marketing.

TABLE 467.—*Cattle: Average quantities of feed and other factors used in the production of 100 pounds gain in corn-fed cattle, 1919–1921*—Continued.

SALINE AND LAFAYETTE COUNTIES, MISSOURI.

Item.	Winter 1919–20.	Winter 1920–21.	Item.	Winter 1919–20.	Winter 1920–21.
Feeds consumed:			Days on pasture	44	39
Corn, shelled basis—pounds	518	707	Straw and bedding—pounds	120	53
Rye—do			Labor:		
Oats—do	8	2	Man hours	3.5	3.1
Linseed meal—do	30	4	Horse hours	3.6	3.2
Cottonseed meal—do	15	31	The per cent which all other expenses were of feed and labor costs [3]	12.6	16.0
Molasses feed—do	14	3	Feed lot by-products:		
Miscellaneous concentrates—pounds	2	10	Pounds of pork	20.0	26.0
Alfalfa hay—do	64	21	Loads of manure	.5	.25
Clover hay—do	87	124			
Mixed hay—do	21	25			
Timothy hay—do	6	1			
Corn stover and fodder—do	99	104			
Silage—do	764	513			

BURT COUNTY, NEBR.

Item.	Winter 1919–20.		Winter 1920–21.	
	Survey.	Route.	Survey.	Route.
Feeds consumed:				
Corn, shelled basis—pounds	753	759	915	728
Barley—do			1	
Oats—do	20	17	8	11
Linseed meal—do	3	7	4	2
Molasses feed—do	1	1		
Miscellaneous millfeeds—do	[2]	[2]		
Alfalfa hay—do	367	365	346	334
Clover hay—do	90	50	35	104
Mixed hay—do	35	25	47	26
Prairie hay—do	15	4	48	20
Timothy hay—do	3			
Miscellaneous dry roughages—do	4		4	
Silage—do	125		50	
Days on pasture	18	16	8	17
Straw and bedding	199	205	252	160
Labor:				
Man hours	3.0	3.2	3.4	2.0
Horse hours	2.0	2.9	2.6	.7
The per cent which all other expenses were of feed and labor costs [3]	14.4	11.4	29.3	35.2
Feed lot by-products:				
Pounds of pork	29.7	24.2	24.5	16.3
Loads of manure	1.2	1.45	.8	.3

Division of Cost of Production.

[2] Less than one-half pound.

[3] Including interest, equipment charge, death loss, veterinary, insurance, taxes, incidentals, and marketing.

TABLE 468.—*Cattle: Average quantity of feed and other factors used in production of 100 pounds gain in corn-fed cattle, 1921–22.*

INDIANA.

Item.	Class of feeder cattle.			Calves.	All cattle.
	Heavy.	Medium.	Yearlings.		
Feed:					
Grain—pounds	1,161	870	723	521	843
Protein concentrates—do	3	14	19	31	16
Alfalfa and clover hay—do	14	21	38	28	23
Other hay—do	22	19	36	46	26
Straw and stover—do	720	767	720	428	691
Silage—do	1,031	1,304	911	889	1,114
Pasture—days	14	14	22	8	14
Labor:					
Man hours	3.9	4.0	4.4	3.6	4.0
Horse hours	4.0	3.0	2.7	2.6	3.1
Per cent which all other expenses were of feed and labor	19.6	22.5	17.2	22.1	22.4
Feed lot by-products:					
Pounds of pork [1]	59.4	39.0	27.8	15.0	37.0
Loads of manure	1.7	1.7	1.5	1.0	1.6

[1] From hogs following steers.

TABLE 468.—*Cattle: Average quantity of feed and other factors used in production of 100 pounds gain in corn-fed cattle, 1921–22*—Continued.

ILLINOIS.

Item.	Class of feeder cattle.			Calves.	All cattle.
	Heavy.	Medium.	Yearlings.		
Feed:					
Grain ..... pounds	869	663	580	525	.....
Concentrates ..... do	32	19	10	14	.....
Alfalfa and clover hay ..... do	75	118	83	79	.....
Other hay ..... do	184	118	76	65	.....
Stover and straw ..... do	791	525	682	442	.....
Silage ..... do	1,459	1,787	1,735	1,261	.....
Pasture ..... days	7	8	11	2	.....
Labor:					
Man hours	5	4	3	4	.....
Horse hours	2	3	3	1	.....
Per cent which all other expenses were of feed and labor	24.3	25.4	21.0	24.4	.....
Feed lot by-products:					
Pounds of pork[1]	22	17	15	10	.....
Loads of manure	2	2	2	1	.....

IOWA.

Feed:					
Grain ..... pounds	1,062	906	873	695	876
Concentrates ..... do	2	4	4	.....	4
Alfalfa and clover hay ..... do	227	257	176	170	215
Other hay ..... do	22	18	60	72	39
Stover and straw ..... do	102	165	124	94	132
Silage ..... do	50	8	177	83	78
Pasture ..... days	5	11	17	10	12
Labor:					
Man hours	2.6	2.1	2.2	2.0	2.2
Horse hours	1.6	1.1	1.1	.45	1.1
Per cent which all other expenses were of feed and labor	41.6	31.4	24.1	25.8	30.0
Feed lot by-products:					
Pounds of pork[1]	26.6	27.2	24.4	16.8	24.4
Loads of manure	.4	.6	.5	.4	.5

NEBRASKA.

Feed:					
Grain ..... pounds	938	883	793	833	.....
Concentrates ..... do	.....	.....	.....	.....	.....
Alfalfa and clover hay ..... do	383	370	310	354	.....
Other hay ..... do	38	48	41	31	.....
Stover and straw ..... do	209	190	178	198	.....
Pasture ..... days	5	8	14	11	.....
Labor:					
Man hours	2.6	2.4	2.1	2.4	.....
Horse hours	1.1	.9	1.0	1.4	.....
Per cent which all other expenses were of feed and labor	42.9	33.3	29.2	39.9	.....
Feed lot by-products:					
Pounds of pork[1]	26.4	27.1	21.3	23.0	.....
Loads of manure	.6	.6	.7	.7	.....

MISSOURI.

Feed:					
Grain ..... pounds	823	753	746	586	734
Cottonseed meal ..... do	54	16	23	46	23
Alfalfa and clover hay ..... do	41	78	111	115	89
Other hay ..... do	57	30	33	21	31
Stover and straw ..... do	.....	175	75	50	128
Silage ..... do	.....	157	212	126	162
Pasture ..... days	44	42	43	33	41
Labor:					
Man hours	3.4	2.9	2.7	2.6	2.8
Horse hours	3.4	4.1	2.9	2.5	3.6
Per cent which all other expenses were of feed and labor	28.9	20.6	19.9	31.3	20.9
Feed lot by-products:					
Pounds of pork[1]	26	24	21	21	22
Loads of manure	.1	.3	.3	.3	.3

Division of Cost of Production.

[1] From hogs following steers.

TABLE 469.—*Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918–1921.*

INDIANA.

Item.	Season cattle were fed.			
	1918–19	1919–20	1920–21	1921–22
Number of droves	47	97	89	117
Number of cattle	1,499	3,016	2,899	4,877
Initial weight per head, pounds	684	784	829	843
Gain per head, do	343	287	265	244
Final weight per head, do	1,027	1,071	1,094	1,087
Original cost of feeder animal	$76.49	$79.94	$70.09	$50.71
Interest per head:				
On money in cattle	2.39	2.40	2.10	1.45
On money in equipment	2.88	2.73	2.26	.70
Operating costs per head:				
Feed, charged at cash farm prices	77.06	76.10	35.35	26.81
Man and horse labor charge	6.04	6.03	5.22	2.90
Building and equipment charge	2.62	2.24	1.73	.74
Death loss	.82	.78	1.04	.39
Veterinary	.15	.13	.06	.05
Insurance	.15	.07	.01	.01
Taxes	1.80	.81	.61	.44
Incidentals	.67	.54	.45	.34
Marketing	1.58	2.70	2.99	2.23
Total operating, interest, and original cost per head	172.65	174.47	121.91	86.77
Manure credit per head	5.70	10.14	4.76	5.81
Pork credit per head	11.86	11.06	5.32	8.97
Net cost per head	155.09	153.27	111.83	71.99
Sales price per head	148.15	136.01	90.28	82.55
Profit per head (feed charged at cash farm price)				10.56
Loss per head	6.94	17.26	21.55	
Cost of feeder cattle per hundredweight	11.18	10.20	8.45	6.02
Net cost of pound gain	.23	.26	.16	.09
Net cost per hundredweight of beef laid down at market	15.10	14.31	10.22	6.62
Price received for corn fed to cattle, per bushel	1.20	.89	—.11	.79
Average cash farm price of corn, per bushel	1.46	1.43	.54	.42

ILLINOIS.

Number of droves	69	108	96	106
Number of cattle	2,590	4,607	3,652	4,202
Initial weight per head, pounds	787	821	843	779
Gain per head, do	296	247	258	241
Final weight per head, do	1,083	1,068	1,101	1,020
Original cost of feeder animal	$81.59	$77.52	$66.49	$41.89
Interest per head:				
On money in cattle	2.43	2.19	2.11	1.23
On money in equipment	2.58	2.14	2.35	1.51
Operating costs per head:				
Feed, charged at cash farm prices	84.02	84.12	38.17	26.61
Man and horse labor charge	9.05	6.68	5.73	3.38
Buildings and equipment charge	2.66	1.95	1.98	1.52
Death loss	.33	.41	.30	.26
Veterinary	.09	.07	.07	.06
Insurance	.04	.03	.01	.01
Taxes	1.00	.78	.54	.36
Incidentals	.63	.64	.44	.30
Marketing	2.29	2.23	2.81	2.12
Total operating, interest, and original costs per head	186.71	178.76	121.00	79.16
Manure credit per head	10.70	12.25	5.09	3.45
Pork credit per head	11.59	6.91	2.80	3.59
Net cost per head	164.42	159.60	113.11	72.12
Sales price per head	157.36	131.05	88.53	77.22
Profit per head (feed charged at cash farm prices)				5.10
Loss per head	7.06	28.55	24.59	
Cost of feeder cattle per hundredweight	10.37	9.45	7.89	5.38
Net cost of pound gain	.280	.332	.151	.135
Net cost per hundredweight of beef laid down at market	15.18	14.94	10.29	7.05
Price received for corn fed to cattle, per bushel	1.12	.80	.32	.68
Average cash farm price of corn, per bushel	1.47	1.42	.53	.45

TABLE 469.—*Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918–1921*—Continued.

IOWA.

Item.	Season cattle were fed.			
	1918–19	1919–20	1920–21	1921–22
Number of droves	78	113	134	117
Number of cattle	3,771	4,294	5,534	4,717
Initial weight per head—pounds	740	786	841	785
Gain per head—do	277	324	352	344
Final weight per head—do	1,017	1,110	1,193	1,129
Original cost of feeder animal	$74.78	$77.10	$74.68	$46.43
Interest per head:				
On money in cattle	2.29	2.77	3.02	1.68
On money in equipment	1.53	1.61	1.40	1.29
Operating costs per head:				
Feed, charged at cash farm prices	82.70	82.30	36.89	27.78
Man and horse labor charged	4.56	4.12	3.82	2.18
Building and equipment charged	1.39	1.69	1.14	1.32
Death loss	.65	.40	.57	.45
Veterinary	.13	.04	.05	.08
Insurance	.06	.14	.08	.07
Taxes	.28	.56	.53	.42
Incidentals	.37	.28	.35	.28
Marketing	2.54	2.98	4.79	3.42
Total operating, interest, and original cost per head	171.28	173.99	127.32	85.40
Manure credit per head	3.12	4.94	2.08	1.68
Pork credit per head	14.36	16.27	7.06	7.66
Net cost per head	153.80	152.78	118.18	76.06
Sales price per head	144.15	143.85	102.93	90.84
Profit per head (feed charged at cash farm prices)				14.78
Loss per head	9.65	8.93	16.25	
Cost of feeder cattle per hundredweight	10.11	9.81	8.88	5.91
Net cost of pound gain	.285	.234	.124	.086
Net cost per hundredweight of beef laid down at market	15.12	13.76	9.91	6.71
Price received for corn fed to cattle, per bushel	1.21	.85	.16	.67
Average cash farm price of corn, per bushel	1.49	1.31	.46	.39

MISSOURI.

Number of droves	50	100	105	101
Number of cattle	3,473	5,184	5,139	4,914
Initial weight per head—pounds	729	807	843	769
Gain per head—do	268	258	342	339
Final weight per head—do	997	1,065	1,185	1,108
Original cost of feeder animal	$71.38	$77.25	$67.81	$45.72
Interest per head:				
On money in cattle	2.55	2.70	3.25	2.16
On money in equipment	.85	.86	.79	.68
Operating costs per head:				
Feed, charged at cash farm prices	56.91	65.69	48.04	34.26
Man and horse labor charge	4.89	4.66	4.64	3.20
Building and equipment charge	.66	.79	.62	.72
Death loss	.89	.52	.46	.42
Veterinary	.16	.08	.04	.08
Insurance	.25	.03	.07	.06
Taxes	.16	.28	.32	.33
Incidentals	.22	.31	.29	.27
Marketing	2.67	2.96	4.70	3.12
Total operating, interest, and original cost per head	141.59	156.13	131.03	91.02
Manure credit per head	.24	1.98	.82	1.31
Pork credit per head	6.78	8.22	7.15	7.35
Net cost per head	134.57	145.93	123.06	82.46
Sales price per head	133.71	126.61	91.06	93.09
Profit per head (feed charged at cash farm prices)				10.63
Loss per head	.86	19.32	32.00	
Cost of feeder cattle per hundredweight	9.79	9.57	8.04	5.95
Net cost of pound gain	.236	.266	.161	.108
Net cost per hundredweight of beef laid down at market	13.50	13.70	10.38	7.42
Price received for corn fed to cattle, per bushel	1.60	.80	.10	.71
Average cash farm price of corn, per bushel	1.49	1.42	.60	.495

TABLE 469.—*Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918–1921*—Continued.

NEBRASKA.

Item.	Season cattle were fed.			
	1918-19	1919-20	1920-21	1921-22
Number of droves	67	125	95	122
Number of cattle	2,207	3,857	2,827	4,222
Initial weight per head...pounds	712	797	873	828
Gain per head...do	298	269	308	330
Final weight per head...do	1,010	1,066	1,181	1,158
Original cost of feeder animal	$70.18	$80.49	$78.68	$50.03
Interest per head:				
On money in cattle	2.27	2.40	2.79	1.82
On money in equipment	1.74	1.66	1.75	1.17
Operating costs per head:				
Feed, charged at cash farm prices	79.35	66.84	34.17	21.80
Man and horse labor charge	7.13	3.83	4.34	2.11
Buildings and equipment charge	1.73	1.48	1.39	1.05
Death loss	.44	.33	.41	.68
Veterinary	.14	.05	.06	.08
Insurance	.04		.01	.01
Taxes	.14	.10	.16	.21
Incidentals	.50	.45	.61	.38
Marketing	2.28	2.44	4.88	3.28
Total operating, interest, and original cost per head	165.94	160.13	129.25	82.62
Manure credit per head	3.39	4.61	1.80	1.39
Pork credit per head	14.45	10.23	5.64	6.69
Net cost per head	148.10	145.29	121.81	74.54
Sales price per head	145.70	133.32	105.24	90.49
Profit per head (feed charged at cash farm prices)				15.95
Loss per head	2.40	11.97	16.57	
Cost of feeder cattle per hundredweight	9.86	10.10	9.01	6.05
Net cost of pound gain	.261	.241	.140	.074
Net cost per hundredweight of beef laid down at market	14.66	13.63	10.31	6.40
Price received for corn fed to cattle, per bushel	1.45	1.03	.14	.05
Average cash farm price of corn, per bushel	1.53	1.37	.50	.33

Division of Cost of Production.

TABLE 470.—*Cattle: Daily rations and feed required to make 100 pounds gain, 1919–20 and 1920–21.*

THREE PRINCIPAL IOWA RATIONS (POTTAWATTAMIE AND SHELBY COUNTIES, IOWA).

Item.	Corn, protein meal, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder, silage.	Item.	Corn, protein meal, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder, silage.
Number of droves	48	164	20	Feed per 100 pounds gain:			
Initial weight per head...lbs.	858	812	753	Corn (shelled basis)...lbs.	1,001	891	568
Final weight per head...lbs.	1,232	1,152	1,051	Protein meal...do	67		
Total gain per head...do	374	340	298	Alfalfa and clover hay...lbs.	270	250	243
Average daily gain per head...lbs.	1.82	1.82	1.67	Stover and fodder...lbs.	26	24	29
Daily feed per head:				Silage...do			1,272
Corn (shelled basis)...lbs.	18.1	16.0	9.4	Days on pasture	15	19	17
Protein meal...do	1.2			Pork produced per steer [1]...lbs.	39.5	33.2	31.9
Alfalfa and clover hay...lbs.	4.8	4.5	4.0				
Stover and fodder...lbs.	.5	.4	.5				
Silage...do			21.1				

[1] From hogs following steers.

TABLE 470.—*Cattle: Daily rations and feed required to make 100 pounds gain, 1919–20 and 1920–21*—Continued.

THREE PRINCIPAL INDIANA RATIONS (EAST CENTRAL INDIANA).

Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder.	Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder.
Number of droves	95	21	18	Feed per 100 pounds gain:			
Initial weight per head ..lbs..	790	769	840	Corn (shelled basis) ..lbs..	511	613	931
Final weight per head ..lbs..	1,063	1,022	1,188	Protein meal ....do..	85	.....	.....
Total gain per head lbs..	273	253	348	Clover and timothy hay ..lbs..	89	188	169
Average daily gain per head ..do..	1.65	1.42	1.56	Stover and fodder ..lbs..	119	78	334
Daily feed per head:				Silage ..do..	1,779	1,604	.....
Corn (shelled basis) ..lbs..	8.2	8.3	14.0	Days on pasture	9	20	28
Protein meal ....do..	1.3	.....	.....	Pork produced per steer [1] ..lbs..	63.8	52.2	116.3
Clover and timothy hay ..lbs..	1.4	2.5	2.5				
Stover and fodder ..lbs..	1.9	1.1	5.0				
Silage ..do..	23.1	23.0	.....				

THREE PRINCIPAL ILLINOIS RATIONS (DE KALB COUNTY, ILL.).

Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder, silage.	Corn, protein meal, clover and timothy, stover and fodder.	Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder, silage.	Corn, protein meal, clover and timothy, stover and fodder.
Number of droves	153	15	12	Feed per 100 pounds gain:			
Initial weight per head ..lbs..	822	823	868	Corn (shelled basis) ..lbs..	530	572	1,059
Final weight per head ..lbs..	1,081	1,055	1,133	Protein meal ....do..	74	.....	66
Total gain per head... do..	259	232	265	Clover and timothy hay ..lbs..	161	495	400
Average daily gain per head ..lbs..	1.51	1.32	1.62	Stover and fodder ..lbs..	69	186	302
Daily feed per head:				Silage ..do..	2,278	2,294	.....
Corn (shelled basis) ..lbs..	8.2	7.4	17.0	Days on pasture	8	19	17
Protein meal ....do..	1.1	.....	1.1	Pork produced per steer [1] ..lbs..	37.3	31.6	62.4
Clover and timothy hay ..lbs..	4.0	4.1	6.4				
Stover and fodder ..lbs..	1.0	.24	4.9				
Silage ..do..	33.5	33.9	.....				

[1] From hogs following steers.

TABLE 470.—*Cattle: Daily rations and feed required to make 100 pounds gain, 1919–20 and 1920–21.*

FOUR PRINCIPAL MISSOURI RATIONS (SALINE AND LAFAYETTE COUNTIES, MO.).

Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder, silage.	Corn, protein meal, clover and timothy, stover and fodder, one-half time or more on pasture.	Corn, protein meal, clover and timothy, stover and fodder, less than one-half time on pasture.
Number of droves	24	15	38	28
Initial weight per head ..... pounds	859	874	833	815
Final weight per head ..... do	1,189	1,187	1,214	1,144
Total gain per head ..... do	330	313	381	329
Average daily gain per head ..... do	1.39	1.56	1.52	1.78
Daily feed per head:				
Corn (shelled basis) ..... do	7.2	8.8	11.4	17.5
Protein meal ..... do	1.1		.5	.5
Clover and timothy hay ..... do	2.8	3.0	2.7	4.7
Stover and fodder ..... do	1.5	1.4	1.7	1.6
Silage ..... do	12.0	15.0		
Feed per 100 pounds gain:				
Corn (shelled basis) ..... do	529	577	759	1,002
Protein meal ..... do	83		31	29
Clover and timothy hay ..... do	202	197	179	272
Stover and fodder ..... do	106	93	115	99
Silage ..... do	1,304	985		
Days on pasture	43	43	46	16
Pork produced per steer [1] ..... do	59	82	100	115

Division of Cost of Production.

[1] From hogs following steers.

TABLE 471.—*Cattle: Number of days on feed and gain per head, Nebraska, 1918–1919.*

Length of feeding period.	1918–19		1919–20		Daily gain per head.	1918–19		1919–20	
	Droves.	Cattle.	Droves.	Cattle.		Droves.	Animals.	Droves.	Animals.
DAYS.					POUNDS.				
210 and over	14	632	11	421	3 and over	3	117	11	329
180 to 210	9	258	14	449	2½ to 3	8	221	13	345
150 to 180	13	435	15	436	2 to 2½	14	402	27	716
120 to 150	14	511	16	461	1½ to 2	28	920	29	867
90 to 120	10	306	26	693	1 to 1½	13	513	20	623
60 to 90	7	192	17	422	Less than 1	4	120	3	161
Less than 60	3	69	4	149					
Average days on feed	162		144		Average daily gain, pounds	1.90		2.08	

Division of Cost of Production.

CATTLE SHIPMENTS.

TABLE 472.—*Cattle and calves: Percentage of shrinkage [1] in shipments by cooperative associations, 1921.*

BY DISTANCE.

Distance.	Cattle				Calves, mixed shipments.[3]	
	Straight shipments.[2]		Mixed shipments.[3]			
	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.
Less than 100 miles	1,661	2.56	6,261	2.34	16,869	3.49
100 to 150 miles	3,518	2.26	4,117	2.99	9,781	4.99
150 to 200 miles	3,158	3.46	7,151	3.30	8,114	4.85
200 to 250 miles	1,023	3.16	2,295	4.06	1,767	6.48
250 to 300 miles	350	2.91	179	3.03	102	4.83
300 to 350 miles	1,888	4.09	917	4.86	2,194	5.96
350 to 400 miles	1,522	5.03	2,027	5.28	5,641	5.96
400 to 450 miles	1,070	3.94	1,419	4.09	2,063	7.40
450 to 500 miles	376	4.20	345	4.27	495	6.20
500 to 550 miles	72	5.04	8	6.26		
550 to 600 miles	220	4.60	330	4.80	42	7.75
BY MONTHS.						
January	1,822	4.20	2,795	4.00	3,858	5.26
February	1,401	3.34	2,591	4.13	4,172	5.22
March	1,416	3.66	3,210	3.39	6,183	5.55
April	2,063	3.54	2,400	3.14	5,517	5.64
May	1,728	2.78	2,413	2.69	5,632	5.20
June	2,339	2.62	2,281	2.97	4,386	5.67
July	828	2.66	1,056	2.78	2,541	5.00
August	616	2.72	1,429	2.74	2,691	5.08
September	680	3.47	1,283	3.18	2,332	4.98
October	829	3.81	1,636	3.24	2,794	5.30
November	1,000	4.30	2,505	3.68	3,919	4.62
December	736	2.84	2,036	4.07	3,053	4.87

Division of Cost of Marketing.

[1] Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.

[2] Straight shipments contain but one species of livestock.

[3] Mixed shipments contain more than one species of livestock.

TABLE 473.—*Calves: Percentage crippled and percentage dead in mixed shipments by cooperative associations, 1921.*[1]

BY MARKETS.

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Buffalo	7,906	167	0.29	0.28	162	0.32	0.32	167
Chicago	7,803	153	.49	.34	106	.36		
East St. Louis	868	259	.11	.05	120	.23	.11	120
Kansas City	2,627	201	.19	.18	190	.19		
Milwaukee	20,928	110	.13			.23		
Pittsburgh	3,976	160	.13	.11	130	.18	.13	117
Sioux City	130	219	.77	.35	100	.70	.35	100
St. Paul	10,555	136	.03	.02	93	.13	.12	120

[1] Mixed shipments contain more than one species of livestock.

TABLE 473.—*Calves: Percentage crippled and percentage dead in mixed shipments by cooperative associations, 1921* [1]—Continued.

BY DISTANCE.

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Less than 100 miles	20,629	124	0.07	.....	.....	0.16	.....	.....
100 to 150 miles	15,646	137	.25	.....	.....	.30	.....	.....
150 to 200 miles	9,776	145	.09	.....	.....	.14	.....	.....
200 to 250 miles	2,980	203	.20	.....	.....	.13	.....	.....
250 to 300 miles	102	196	.....	.....	.....	.....	.....	.....
300 to 350 miles	2,194	162	.23	0.18	132	.23	.....	.....
350 to 400 miles	6,313	165	.35	.31	146	.41	.....	.....
400 to 450 miles	2,145	177	.19	.19	178	.33	0.27	144
450 to 500 miles	514	171	.78	.92	230	1.94	.....	.....
500 to 550 miles	.....	.....	.....	.....	.....	.....	.....	.....
550 to 600 miles	42	166	2.38	1.42	100	2.38	1.42	100
BY MONTHS.								
January	4,968	141	0.28	0.23	116	0.36	.....	.....
February	5,093	140	.14	.12	126	.16	.....	.....
March	8,122	125	.11	.....	.....	.25	.....	.....
April	6,991	126	.14	.....	.....	.36	.....	.....
May	6,794	132	.15	.....	.....	.27	.....	.....
June	5,514	150	.15	.11	118	.27	.....	.....
July	3,095	152	.19	.15	117	.22	.....	.....
August	3,547	175	.23	.21	161	.14	0.13	160
September	3,231	178	.34	.28	145	.31	.....	.....
October	4,115	163	.15	.19	208	.12	.....	.....
November	4,904	150	.16	.....	.....	.16	.....	.....
December	3,967	138	.18	.....	.....	.15	.....	.....

Division of Cost of Marketing.

[1] Mixed shipments contain more than one species of livestock.

TABLE 474.—*Cattle: Percentage crippled in shipments by cooperative associations, 1921.*

BY MARKETS.

Market.	Straight shipments.[1]					Mixed shipments.[1]				
	Number of animals upon which figures are based.	Average weight of animals.	Percentage crippled of total number shipped.	Percentage crippled of total weight shipped.	Average weight of crippled animals.	Number of animals upon which figures are based.	Average weight of animals.	Percentage crippled of total number shipped.	Percentage crippled of total weight shipped.	Average weight of crippled animals.
		Pounds.			*Pounds.*		*Pounds.*			*Pounds.*
Buffalo	652	1,050	0.15	0.18	1,220	1,840	956	0.27	0.16	546
Chicago	7,462	888	.12	.07	543	14,973	862	.18	.....	.....
East St. Louis	912	735	.22	.23	760	573	815	.35	.39	905
Kansas City	1,229	679	.....	.....	.....	3,794	770	.08	.07	703
Milwaukee	673	985	.....	.....	.....	2,127	999	.09	.07	790
Omaha	480	846	.....	.....	.....	909	823	.11	.13	980
Pittsburgh	1,601	1,010	.13	.07	540	729	873	.27	.16	500
Sioux City	2,333	814	.17	.14	665	1,020	792	.10	.06	480
St. Joseph	259	814	.....	.....	.....	1,728	903	.06	.03	400
St. Paul	238	655	.....	.....	.....	6,047	872	.07	.05	708

See footnotes end of table.

TABLE 474.—*Cattle: Percentage crippled in shipments by cooperative associations, 1921*—Continued.

BY DISTANCE.

Market.	Straight shipments.[1]					Mixed shipments.[2]				
	Number of animals upon which figures are based.	Average weight of animals.	Percentage crippled of total number shipped	Percentage crippled of total weight shipped	Average weight of crippled animals.	Number of animals upon which figures are based.	Average weight of animals.	Percentage crippled of total number shipped	Percentage crippled of total weight shipped	Average weight of crippled animals.
		Pounds.			*Pounds.*		*Pounds.*			*Pounds.*
Less than 100 miles	2,330	799	0.09	0.06	540	7,888	874	0.06	0.05	667
100 to 150 miles	5,130	934	.10	.08	796	8,086	847	.17	.17	815
150 to 200 miles	3,437	829	.09	.07	694	8,030	826	.10	.08	683
200 to 250 miles	2,427	953	.17	.10	578	3,720	873	.27	.18	605
250 to 300 miles	395	1,055				187	550			
300 to 350 miles	2,004	929				851	860	.11	.13	1,000
350 to 400 miles	1,805	854	.22	.13	502	4,052	880	.17	.13	648
400 to 450 miles	1,119	897				1,460	873	.14	.05	345
450 to 500 miles	699	879	.15	.08	450	501	896	.20	.22	1,000
500 to 550 miles	101	723				46	718			
550 to 600 miles	220	923	.91	.70	705	330	888			
BY MONTHS.										
January	2,068	838	0.19	0.17	738	4,097	844	0.12	0.10	690
February	1,775	870	.05	.06	950	3,541	825	.20	.18	733
March	1,981	873	.20			4,359	838	.16	.13	663
April	2,421	945	.16	.14	808	3,280	842	.21	.18	713
May	2,052	951	.14	.14	957	3,284	862	.12	.08	595
June	3,201	936	.03	.02	600	3,103	879	.26	.27	925
July	914	938	.11	.05	460	1,321	857			
August	818	835	.12	.06	450	2,032	882	.20	.10	433
September	941	796				1,863	838	.05	.04	640
October	1,082	811				2,288	868			
November	1,302	855	.15	.10	530	3,358	878	.06	.05	690
December	1,071	908	.09	.08	840	2,625	900	.11	.07	550

Division of Cost of Marketing.

[1] Straight shipments contain but one species of livestock.
[2] Mixed shipments contain more than one species of livestock.

TABLE 475.—*Cattle: Principal terminal marketing costs, nine markets, 1921.*

Market.	Number of head upon which figures are based.	Cents per 1,000 pounds, home weight, straight shipments.												Average yardage cost per head.	Average feed cost per head.
		Commission.			Yardage.			Feed.			Commission, yardage, and feed combined.				
		Average.[1]	Low.[1]	High.[1]	Average.[1]	Low.[1]	High.[1]	Average.[1]	Low.[1]	High.[1]	Average.[1]	Low.[1]	High.[1]		
														Cents.	*Cents.*
Pittsburgh	1,445	104.4	88.8	119.4	31.0	22.8	35.5	75.8	51.8	102.1	211.1	165.5	256.8	33	80
Buffalo	603	86.0	78.3	109.2	34.0	26.2	89.0	44.2	24.1	63.7	170.4	144.2	192.1	44	48
East St. Louis	1,068	99.7	93.7	138.2	46.3	42.6	53.4	19.2	11.7	21.5	165.2	157.9	199.6	29	12
Cleveland	2,224	86.9	80.2	103.4	31.2	30.8	52.0	43.1	42.4	72.6	161.2	159.5	231.0	35	48
Sioux Falls	797	92.5	82.1	110.1	41.0	37.4	56.8	26.7	16.6	48.1	160.1	142.2	214.9	33	21
Kansas City	81	90.6	80.2	98.4	40.2	37.4	43.8	20.7	14.0	31.3	154.4	131.7	173.6	35	18
Chicago	6,063	98.1	74.6	118.7	36.8	29.0	45.6	18.5	8.4	36.1	153.2	121.4	197.0	34	17
Sioux City	1,097	84.3	77.2	104.7	41.4	40.1	44.1	16.0	12.9	19.7	141.6	136.7	161.7	35	13
Milwaukee	596	63.0	53.9	64.4	23.5	21.2	25.3	25.3	16.2	28.8	111.7	92.8	118.0	26	27

Division of Cost of Marketing.
Data from 237 Cooperative Shipping Associations in the Corn Belt (shipments through central market commission agents).

[1] Averages are of associations shipping to the given market, weighted on the volume shipped not based on shipments. Low figures are for low cost *associations* and high figures for high cost *associations*.

SWINE.

TABLE 476.—*Swine: Number and value on farms, United States, January 1, 1867–1924.*

Jan. 1—	Number.	Price per head Jan. 1.	Farm value Jan. 1.	Jan. 1—	Number.	Price per head Jan. 1.	Farm value Jan. 1.
	Thousands.	*Dolls.*	*Thousands of dollars.*		*Thousands.*	*Dolls.*	*Thousands of dollars.*
1867	24,094	4.03	99,637	1897	40,600	4.10	166,273
1868	24,317	3.29	79,976	1898	39,760	4.39	174,551
1869	23,316	4.65	108,431	1899	38,652	4.40	170,110
1870, June 1	*25,135*	5.59	140,532	1900, June 1	*62,868*	5.50	346,014
1871	29,458	5.61	165,312	1901	56,982	6.20	353,012
1872	31,796	4.01	127,453	1902	48,699	7.03	342,121
1873	32,632	3.67	119,632	1903	46,923	7.78	364,974
1874	30,861	3.98	122,695	1904	47,009	6.15	289,225
1875	28,062	4.80	134,581	1905	47,321	5.99	283,255
1876	25,727	6.00	154,251	1906	52,103	6.18	321,903
1877	26,077	5.66	155,873	1907	54,794	7.62	417,791
1878	32,262	4.85	156,577	1908	56,084	6.05	339,090
1879	34,766	3.18	110,508	1909	54,147	6.55	354,794
1880, June 1	*47,683*	4.43	211,036	1910, Apr. 1	*58,186*	9.17	533,309
1881	36,248	4.70	170,535	1911	65,620	9.37	615,170
1882	44,122	5.97	263,543	1912	65,410	[1]8.00	523,328
1883	43,270	6.75	291,951	1913	61,178	9.86	603,109
1884	44,201	5.57	246,301				
1885	45,143	5.02	226,402	Av. 1909–1913	60,908	8.04	525,942
1886	46,092	4.26	196,570	1914	58,933	10.40	612,951
1887	44,613	4.48	200,043	1915	64,618	9.87	637,479
1888	44,347	4.96	220,811	1916	67,766	8.40	569,573
1889	50,302	5.79	291,307	1917	67,503	11.75	792,998
1890, June 1	*67,410*	4.91	281,686	1918	70,978	19.54	1,387,261
1891	50,625	4.15	210,194	1919	74,584	22.02	1,642,598
1892	52,398	4.60	241,031	1920	59,344	19.07	1,131,674
1893	46,005	6.41	295,426	Av. 1914–1920	66,247	14.61	967,776
1894	45,266	5.96	270,385	1921	56,097	12.97	727,280
1895	44,166	4.97	219,501	1922	58,327	10.10	589,202
1896	42,843	4.35	186,530	1923	68,427	11.58	792,565
				1924 [2]	65,501	9.75	638,793

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Preliminary.

TABLE 477.—*Swine: Number and value on farms, by States, January 1, 1922–1924.*

State.	Number Jan. 1.			Average price per head Jan. 1.			Farm value Jan. 1.		
	1922	1923	1924 [1]	1922	1923	1924	1922	1923	1924 [1]
	Thousand.	*Thousand.*	*Thousand.*	*Dolls.*	*Dolls.*	*Dolls.*	*Thousand dollars.*	*Thousand dollars.*	*Thousand dollars.*
Maine	69	68	76	14.70	18.30	17.00	1,014	1,244	1,292
New Hampshire	30	30	31	15.00	17.00	16.00	450	510	496
Vermont	53	59	62	12.40	14.00	13.80	657	826	856
Massachusetts	76	72	75	18.30	17.00	17.00	1,239	1,224	1,275
Rhode Island	12	12	11	17.50	18.10	18.00	210	217	198
Connecticut	47	45	44	17.00	17.70	18.00	799	796	792
New York	530	546	557	14.50	15.50	14.70	7,540	8,463	8,188
New Jersey	132	132	133	17.00	17.50	17.00	2,244	2,310	2,261
Pennsylvania	1,143	1,200	1,212	14.50	16.00	14.50	16,574	19,200	17,574
Delaware	41	43	44	10.00	11.00	10.50	410	473	462

[1] Preliminary.

TABLE 477.—*Swine: Number and value on farms, by States, January 1, 1922–1924*—Continued.

State.	Number Jan. 1.			Average price per head Jan. 1.			Farm value Jan. 1.		
	1922	1923	1924	1922	1923	1924	1922	1923	1924 [1]
	Thousand.	*Thousand.*	*Thousand.*	*Dolls.*	*Dolls.*	*Dolls.*	*Thousand dollars.*	*Thousand dollars.*	*Thousand dollars.*
Mary and	285	299	299	11.50	13.00	11.25	3,278	3,887	3,364
Virginia	703	689	655	9.60	10.50	9.90	6,749	7,234	6,484
West Virginia	293	316	316	10.80	12.30	11.00	3,164	3,887	3,476
North Carolina	1,258	1,195	1,159	12.00	13.30	12.50	15,096	15,894	14,488
South Carolina	680	612	569	9.20	11.00	11.30	6,256	6,732	6,430
Georgia	2,064	1,878	1,542	8.60	7.80	8.00	17,750	14,648	12,336
Florida	725	703	633	7.00	7.50	7.00	5,075	5,272	4,431
Ohio	2,962	3,205	3,077	10.90	12.10	10.00	31,196	38,780	30,770
Indiana	3,200	4,000	3,880	11.00	11.90	9.80	35,200	47,600	38,024
Illinois	4,046	5,422	5,368	10.50	12.50	10.10	42,483	67,775	54,217
Michigan	1,051	1,177	1,165	11.30	12.50	10.00	11,876	14,712	11,650
Wisconsin	1,500	1,725	1,678	10.50	13.10	9.90	15,750	22,598	16,563
Minnesota	3,333	3,800	3,800	11.20	13.20	10.30	37,330	50,160	39,140
Iowa	8,218	11,094	10,539	11.00	12.80	10.30	90,398	142,003	108,552
Missouri	3,915	4,698	4,463	8.50	9.80	8.50	33,278	46,040	37,936
North Dakota	435	566	651	11.00	13.50	10.00	4,785	7,641	6,510
South Dakota	2,200	2,970	3,029	10.00	13.50	10.10	22,000	40,095	30,593
Nebraska	4,100	5,330	5,223	10.00	12.00	10.00	41,000	63,960	52,230
Kansas	2,388	3,104	2,980	9.50	11.00	9.00	22,686	34,144	26,820
Kentucky	1,048	1,205	1,109	7.50	8.80	7.00	7,860	10,604	7,763
Tennessee	1,546	1,654	1,373	8.00	9.30	7.40	12,368	15,382	10,160
Alabama	1,307	1,281	1,089	8.60	9.30	8.80	11,240	11,913	9,583
Mississippi	1,183	1,207	1,063	8.00	8.00	7.40	9,464	9,656	7,866
Louisiana	756	756	665	8.60	7.80	7.60	6,502	5,897	5,054
Texas	2,226	2,092	1,904	8.50	8.80	9.00	18,921	18,410	17,136
Oklahoma	1,334	1,401	1,121	8.50	8.80	6.70	11,339	12,329	7,511
Arkansas	1,125	1,058	952	7.10	6.90	6.10	7,988	7,300	5,807
Montana	180	225	270	13.10	13.20	11.20	2,358	2,970	3,024
Wyoming	73	99	119	12.00	12.50	10.00	876	1,238	1,190
Colorado	455	592	622	9.60	10.50	9.50	4,368	6,216	5,909
New Mexico	94	89	71	9.00	10.00	9.00	846	890	639
Arizona	50	57	57	12.00	13.00	9.50	600	741	542
Utah	90	108	121	10.00	10.90	10.10	900	1,177	1,222
Nevada	25	25	28	10.00	14.00	9.00	250	350	252
Idaho	225	315	378	11.00	11.50	9.40	2,475	3,622	3,553
Washington	197	217	239	12.50	14.80	13.00	2,462	3,212	3,107
Oregon	200	214	220	10.70	11.20	10.50	2,140	2,397	2,310
California	834	842	834	11.70	11.80	10.50	9,758	9,936	8,757
United States	58,327	68,427	65,501	10.10	11.58	9.75	589,202	792,565	638,793

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 478.—*Hogs on farms: Cumulative percentage changes, 1920–1923.*

Item.	To Feb. 1.	To Mar. 1.	To Apr. 1.	To May 1.	To June 1.	To July 1.	To Aug. 1.	To Sept. 1.	To Oct. 1.	To Nov. 1.	To Dec. 1.	To Jan. 1 of succeeding year.
Increases:												
Births [1]—	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1920	5.8	14.5	36.0	64.4	83.1	93.3	102.0	113.6	129.4	140.7	147.3	152.8
1921	5.8	14.5	38.0	67.4	86.1	95.9	105.2	118.4	136.6	148.8	156.9	163.4
1922	5.3	14.2	41.2	70.8	88.5	99.4	107.6	121.4	142.2	156.0	163.5	168.9
1923	6.2	17.2	44.5	76.0	95.2	105.1	113.6	127.2	147.8	158.4	164.1	------
Brought on farms [1]—												
1920	3.3	6.2	9.2	11.9	14.9	17.1	19.2	22.1	25.4	28.8	32.0	35.0
1921	3.0	6.6	9.9	12.7	15.0	16.7	18.7	21.1	24.1	28.1	31.5	35.1
1922	3.2	6.6	9.7	12.9	16.5	19.0	21.6	24.0	27.1	31.2	34.9	39.5
1923	3.4	5.9	8.7	11.7	14.0	16.0	17.3	19.2	21.0	24.3	27.7	------
Total increases [1]—												
1920	9.1	20.7	45.2	76.3	98.0	110.4	121.2	135.7	154.8	169.5	179.3	187.8
1921	8.8	21.1	47.9	80.1	101.1	112.6	123.9	139.5	160.7	176.9	188.4	198.5
1922	8.5	20.8	51.5	83.7	105.0	118.4	129.2	145.4	169.3	187.2	198.4	208.4
1923	9.6	23.1	53.2	87.7	109.2	121.1	130.9	146.4	168.8	182.7	191.8	------

[1] Corrective factor 0.905 applied to births and brought on farms figures.

TABLE 478.—*Hogs on farms: Cumulative percentage changes, 1920–1923*—Contd.

Item.	To Feb. 1.	To Mar. 1.	To Apr. 1.	To May 1.	To June 1.	To July 1.	To Aug. 1.	To Sept. 1.	To Oct. 1.	To Nov. 1.	To Dec. 1.	To Jan. 1 of succeeding year.
Decreases:												
Moved off—	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1920	11.7	20.7	30.2	40.7	53.3	62.9	70.4	79.6	90.6	102.3	115.9	129.4
1921	10.8	21.8	31.9	42.8	53.3	62.3	70.2	79.6	90.9	103.2	117.3	130.6
1922	10.4	20.6	31.4	41.5	53.6	64.2	71.8	81.5	91.5	105.2	118.4	131.9
1923	11.1	20.4	31.6	42.8	53.4	62.6	69.7	77.4	84.3	97.1	111.6	.....
Slaughtered on farms—												
1920	6.1	10.0	11.7	12.8	13.5	13.9	14.4	15.1	15.6	17.1	22.4	35.2
1921	6.8	10.6	12.2	13.0	13.4	13.7	14.1	14.6	15.3	16.6	21.9	33.2
1922	6.3	9.3	10.9	11.7	12.5	12.7	13.1	13.4	13.8	15.3	19.4	30.5
1923	5.7	9.2	10.9	11.8	12.3	12.7	13.1	13.4	14.1	15.4	19.6	.....
Died—												
1920	2.0	4.8	8.1	12.6	15.2	17.3	19.4	21.5	24.1	26.5	28.5	30.2
1921	2.0	3.9	7.2	10.8	13.3	15.6	17.6	20.0	23.6	26.6	29.3	31.3
1922	2.2	4.4	9.6	14.5	18.0	20.6	22.7	25.6	29.7	32.8	34.9	37.2
1923	2.1	5.7	12.9	19.2	23.5	26.0	29.4	32.9	37.1	40.2	42.8	.....
Total decreases—												
1920	19.8	35.5	50.0	66.1	82.0	94.1	104.2	116.2	130.3	145.9	166.8	194.8
1921	19.6	36.3	51.3	66.6	80.0	91.6	101.9	114.2	129.8	146.4	168.5	195.1
1922	18.9	34.3	51.9	67.7	84.1	97.5	107.6	120.5	135.0	153.3	172.7	199.6
1923	18.9	35.3	55.4	73.8	89.2	101.9	112.2	123.7	135.5	152.7	174.0	.....
Net change:												
1920	−10.7	−14.8	−4.8	+10.2	+16.0	+16.3	+17.0	+19.5	+24.5	+23.6	+12.5	−7.0
1921	−10.8	−15.2	−3.4	+13.5	+21.1	+21.0	+22.0	+25.3	+30.9	+30.5	+19.9	+3.4
1922	−10.4	−13.5	−0.4	+16.0	+20.9	+20.9	+22.6	+24.9	+34.3	+33.9	+25.7	+8.8
1923	−9.3	−12.2	−2.2	+13.9	+20.0	+19.2	+18.7	+22.7	+33.3	+30.0	+17.8	.....
On hand compared with Jan. 1 [1]—												
1920	89.3	85.2	95.2	110.2	116.0	116.3	117.0	119.5	124.5	123.6	112.5	93.0
1921	89.2	84.8	96.6	113.5	121.1	121.0	122.0	125.3	130.9	130.5	119.9	103.4
1922	89.6	86.5	99.6	116.0	120.9	120.9	121.6	124.9	134.3	133.9	125.7	108.8
1923	90.7	87.8	97.8	113.9	120.0	119.2	118.7	122.7	133.3	130.0	117.8	.....

Division of Crop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.

[1] Number on hand, January 1, each year = 100%.

TABLE 479.—*Swine: Yearly losses per 1,000 from disease, 1888–1924.*

Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.
1887–88	77.5	1897–98	92.8	1907–8	52.4	1917–18	42.1
1888–89	61.7	1898–99	82.1	1908–9	51.0	1918–19	41.4
1889–90	76.1	1899–1900	64.4	1909–10	45.1	1919–20	49.8
1890–91	83.7	1900–1	74.7	1910–11	44.8	1920–21	43.0
1891–92	54.4	1901–2	51.5	1911–12	89.2	1921–22	54.4
1892–93	63.1	1902–3	58.2	1912–13	110.1	1922–23	51.3
1893–94	48.6	1903–4	57.9	1913–14	118.9	1923–24	52.9
1894–95	92.3	1904–5	50.8	1914–15	.....		
1895–96	127.0	1905–6	51.1	1915–16	66.2		
1896–97	144.0	1906–7	48.9	1916–17	48.6		

Division of Crop and Livestock Estimates. As reported by crop reporters May 1 for year ending April 30.

TABLE 480.—*Hogs: Summary of spring and fall pig surveys.*

State.	Sows farrowed.				Average number of pigs saved per litter.						Intended farrowing.[3]			
	Spring, 1922 compared with spring 1921.	Fall, 1922 compared with fall, 1921.	Spring, 1923 compared with spring 1922.	Fall, 1923 compared with fall, 1922.	1921		1922		1923		Fall, 1922 compared with actual 1921.	Spring, 1923 compared with actual 1922.	Fall, 1923 compared with actual 1922.	Spring, 1924 compared with actual 1923.
					Spring.[1]	Fall.[1]	Spring.[1]	Fall.[1]	Spring.[2]	Fall.[2]				
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*							*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Maine		117.0	82.0	125.8			[2]	6.7	6.1	6.7		137.4	160.2	130.3
New Hampshire		160.1	103.6	158.4				6.9	6.2	5.3		146.6	192.2	111.0
Vermont		120.9	127.2	112.8				6.9	5.5	6.9		128.3	165.8	124.0
Massachusetts		85.4	90.2	132.9				6.3	5.8	6.4		115.3	134.4	134.4
Rhode Island		72.7	100.0	124.2				6.8	6.5	6.0		64.9	165.2	92.3
Connecticut		152.2	108.1	114.8				6.6	6.0	5.4		96.2	111.6	90.8
New York	102.8	100.3	105.9	113.9	8.2	7.8	7.4	6.9	5.8	6.4	134.0	110.4	142.3	117.3
New Jersey		106.9	98.6	106.8				6.2	5.2	5.7		119.1	128.9	104.4
Pennsylvania	107.3	114.2	107.4	108.8	7.2	7.0	6.9	6.6	5.7	5.9	126.2	119.2	137.4	109.4
Delaware		98.7	104.1	117.4				6.0	5.4	5.1		96.1	112.4	112.2
Maryland	104.9	107.4	95.7	108.9	7.4	6.9	7.1	6.6	5.9	6.0	118.4	107.2	137.0	106.1
Virginia		97.5	98.9	100.7				6.7	5.8	5.8		106.3	127.6	98.9
West Virginia		114.1	99.8	110.1				6.7	6.2	6.5		101.2	126.9	108.5
North Carolina		90.4	92.6	97.3				6.4	5.6	5.4		102.7	133.8	113.3
South Carolina		89.1	102.6	86.3				6.0	5.1	4.8		106.7	140.7	124.2
Georgia	112.5	93.3	85.5	75.2	6.6	6.3	6.1	5.8	4.9	4.5	134.0	102.5	118.9	111.0
Florida		98.0	89.5	84.0				5.7	4.7	4.0		110.1	127.3	117.9
Ohio	116.8	111.4	107.0	97.7	6.9	6.6	6.5	6.6	5.4	5.6	131.7	112.6	128.2	93.8
Indiana	122.0	109.1	107.0	96.3	6.7	6.2	6.1	6.6	5.0	5.5	137.1	119.4	119.6	93.4
Illinois	122.3	125.5	108.3	94.9	6.4	6.0	5.9	6.2	4.9	5.0	149.3	130.7	122.3	93.6
Michigan	122.3	122.6	115.8	104.7	7.1	6.5	6.3	6.6	5.5	6.0	148.2	107.4	131.8	98.0
Wisconsin	110.5	128.8	106.6	101.9	6.5	6.2	6.0	6.4	5.3	5.4	141.2	106.7	128.9	94.7
Minnesota	122.3	132.5	105.1	93.7	5.8	5.6	5.2	5.9	4.9	4.7	149.3	109.6	119.5	93.7
Iowa	120.7	149.2	116.9	93.7	5.7	5.8	5.5	5.7	4.5	4.8	148.1	111.9	112.4	93.8
Missouri	125.0	117.1	108.1	90.6	6.6	6.3	5.9	6.4	5.0	5.1	144.4	117.7	124.3	93.7
North Dakota		84.1	116.0	112.7				5.8	5.0	4.9		138.9	208.0	121.8
South Dakota	130.5	111.9	111.4	90.4	5.6	5.4	5.2	5.6	4.6	4.4	173.1	119.5	150.4	99.3
Nebraska	126.5	133.9	109.0	86.5	5.4	5.3	5.2	5.4	4.5	4.5	159.7	118.2	142.0	97.3
Kansas	139.8	131.7	114.8	89.3	6.0	5.6	5.4	6.0	5.1	5.0	165.0	123.2	132.4	97.0
Kentucky		102.8	101.2	91.3				6.6	6.0	5.5		110.9	115.2	96.1

Tennessee		108.6	97.7	79.0				6.6	5.5	5.3		107.4	129.9	91.2
Alabama	100.0	91.0	85.0	75.6	6.3	6.0	6.0	6.0	5.0	5.0	124.4	98.0	129.1	112.1
Mississippi	100.6	88.8	89.7	85.5	6.2	5.8	6.0	6.0	4.9	4.5	124.8	99.9	134.1	118.3
Louisiana		85.7	79.5	74.2				5.7	4.4	5.0		90.5	122.1	117.7
Texas		90.2	76.7	81.8				5.9	5.1	4.8		97.1	130.4	97.0
Oklahoma		110.0	93.8	70.8				6.1	5.0	5.1		109.9	133.5	82.6
Arkansas		88.2	90.1	75.1				6.1	5.2	4.9		107.3	147.0	115.2
Montana		172.5	120.2	106.9				6.2	5.4	5.9		117.1	173.8	128.7
Wyoming		183.1	131.2	132.0				5.8	5.4	5.4		179.6	222.4	110.0
Colorado		148.6	117.6	100.1				5.6	4.8	4.8		127.2	153.9	111.1
New Mexico		168.0	86.5	66.7				5.8	5.0	5.0		101.0	110.5	78.3
Arizona		78.3	116.5	91.9				6.0	6.2	5.2		183.4	110.4	115.7
Utah		146.3	130.9	112.8				6.6	6.0	6.5		136.8	232.1	138.3
Nevada		98.4	120.0	138.5				6.5	5.4	6.0		140.6	158.0	140.0
Idaho		133.2	130.5	109.3				6.2	5.2	4.9		127.1	161.2	111.8
Washington		123.3	126.0	107.8				6.8	5.7	6.2		118.5	145.7	123.0
Oregon		128.7	113.6	95.3				6.9	6.2	6.4		111.9	124.0	111.8
California		144.3	122.8	74.2				6.6	5.8	5.7		132.9	140.0	101.4
United States		118.6	108.9	91.3				6.1	5.0	5.1		113.1	128.3	98.8

Division of Crop and Livestock Estimates. Based on reports of about 140,000 farmers gathered in cooperation with Post Office Department through the rural mail carriers. Periods covered: December 1 to June 1 (spring), June 1 to December 1 (fall).

[1] Based on estimated number per sow as reported by farmers.
[2] Total pigs saved divided by sows farrowed as reported by farmers, and probably not strictly comparable with 1921 and 1922 data.
[3] Intentions are as of the close of the preceding 6 months period; for example, those for spring farrowing 1924 were intentions expressed as of December 1, 1923.

TABLE 481.—*Hogs: Receipts and shipments at principal markets and all markets, 1900–1923.*

RECEIPTS.

Calendar year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total nine markets.	All other markets reporting.	Total all markets reporting.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	8,109	116	1,792	(1)	3,094	2,201	1,679	500	833	18,324	(2)	(2)
1901	8,290	109	1,924	(1)	3,716	2,414	2,105	617	960	20,135	(2)	(2)
1902	7,895	87	1,330	79	2,279	2,247	1,608	668	1,008	17,291	(2)	(2)
1903	7,326	147	1,568	151	1,969	2,231	1,701	760	1,008	16,861	(2)	(2)
1904	7,239	102	1,955	281	2,227	2,300	1,657	882	1,113	17,816	(2)	(2)
1905	7,726	191	2,026	463	2,508	2,294	1,900	855	1,209	19,262	(2)	(2)
1906	7,275	193	1,922	551	2,076	2,394	1,908	861	1,158	18,939	(2)	(2)
1907	7,201	241	2,065	487	2,924	2,254	1,923	867	1,289	19,251	(2)	(2)
1908	8,131	280	2,500	703	3,715	2,425	2,349	1,133	1,381	22,677	(2)	(2)
1909	6,619	242	2,473	868	3,093	2,135	1,694	725	1,077	18,926	(2)	(2)
1910	5,587	187	2,054	541	2,086	1,894	1,353	836	1,044	15,582	(2)	(2)
1911	7,103	220	3,124	556	3,168	2,307	1,922	911	1,349	20,720	(2)	(2)
1912	7,181	222	2,530	388	2,523	2,886	1,970	984	1,608	20,382	(2)	(2)
1913	7,571	247	2,584	404	2,568	2,543	1,869	1,257	1,533	20,576	(2)	(2)
1914	6,618	256	2,559	515	2,265	2,259	1,725	1,590	1,257	19,044	(2)	(2)
1915	7,652	344	2,502	464	2,531	2,643	1,698	2,155	1,701	21,840	14,373	36,213
1916	9,188	467	3,057	968	2,979	3,117	2,199	2,675	2,131	26,781	16,484	43,265
1917	7,169	352	2,706	1,062	2,277	2,797	1,920	1,928	2,149	22,360	15,682	38,042
1918	8,614	384	3,256	762	3,328	3,430	2,351	2,061	2,421	26,607	18,256	44,863
1919	8,672	308	3,651	588	3,141	3,179	2,126	2,190	2,322	26,237	18,232	44,469
1920	7,526	341	3,399	413	2,466	2,708	1,914	2,247	2,173	23,187	18,934	42,121
1921	8,148	334	3,330	382	2,205	2,665	1,785	2,210	1,739	22,798	18,303	41,101
1922	8,156	395	3,606	510	2,655	2,839	2,061	2,523	1,856	24,601	19,466	44,067
1923	10,460	495	4,831	486	3,615	3,649	2,457	3,338	2,989	32,320	23,010	55,330

SHIPMENTS.

1900	1,452	(2)	418	(2)	(2)	37	83	45	110	2,145	(2)	(2)
1901	1,301	(2)	370	(2)	(2)	49	117	55	123	2,015	(2)	(2)
1902	1,252	(2)	143	(2)	(2)	170	91	29	143	1,826	(2)	(2)
1903	1,238	(2)	249	(2)	(2)	51	122	50	539	2,249	(2)	(2)
1904	1,626	(2)	373	(2)	(2)	211	93	72	614	2,989	(2)	(2)
1905	2,028	(2)	487	(2)	(2)	172	68	33	279	3,067	(2)	(2)
1906	1,743	(2)	583	(2)	(2)	171	60	20	145	2,722	(2)	(2)
1907	1,712	(2)	753	(2)	(2)	119	117	73	240	3,014	(2)	(2)
1908	1,870	(2)	711	(2)	(2)	284	84	253	237	3,439	(2)	(2)
1909	1,664	(2)	891	(2)	(2)	278	47	137	180	3,197	(2)	(2)
1910	1,202	(2)	615	(2)	(2)	238	34	194	186	2,469	(2)	(2)
1911	1,527	(2)	880	(2)	(2)	217	41	244	320	2,229	(2)	(2)
1912	1,573	(2)	679	(2)	(2)	407	167	228	522	3,576	(2)	(2)
1913	1,673	(2)	918	(2)	(2)	381	70	320	453	3,815	(2)	(2)
1914	1,291	(2)	989	(2)	(2)	331	153	531	230	3,525	(2)	(2)
1915	1,133	11	991	61	417	631	174	795	571	4,784	3,836	8,620
1916	1,405	22	1,071	98	445	726	92	1,181	824	5,864	6,115	11,979
1917	1,219	27	1,026	264	295	796	87	868	891	5,473	7,098	12,571
1918	971	18	980	166	527	889	285	877	911	5,624	8,749	14,373
1919	1,101	33	1,420	102	523	648	209	868	913	5,817	8,549	14,366
1920	1,657	32	1,721	65	602	710	330	342	879	6,338	8,960	15,298
1921	2,170	22	2,044	98	486	695	267	511	690	6,983	7,726	14,709
1922	1,852	28	2,378	94	588	613	355	482	666	7,056	8,276	15,332
1923	2,370	102	2,990	108	889	869	455	609	1,205	9,597	9,545	19,142

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from fourteenth annual report of Bureau of Animal Industry; 1907 to 1914 from Merchants' Exchange Annual Report); subsequent figures from data of the reporting service of the Live stock, Meats and Wool Division.

[1] Not in operation.
[2] Figures not available prior to 1915.

TABLE 482.—*Hogs: Receipts at all public stockyards, 1915–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1915 [1]	3,959	3,449	3,199	2,487	2,768	2,874	2,368	2,024	1,966	2,457	3,728	4,934	36,213
1916 [1]	5,309	4,233	3,489	2,852	3,332	3,054	2,524	2,634	2,386	3,640	4,873	4,939	43,265
1917	5,084	3,933	3,369	2,961	3,264	2,791	2,503	1,853	1,615	2,676	3,941	3,992	38,042
1918	4,444	4,486	4,424	3,696	3,345	2,979	3,099	2,407	2,376	3,399	4,594	5,554	44,803
1919	5,855	4,412	3,643	3,648	3,831	3,773	2,974	2,095	2,397	3,121	3,740	4,980	44,469
1920	5,262	3,422	3,940	3,024	4,210	3,709	2,811	2,491	2,391	2,789	3,872	4,200	42,121
1921	4,700	4,009	3,386	3,229	3,328	3,579	2,727	2,656	2,655	3,214	3,687	3,931	41,101
1922	4,278	3,613	3,411	3,066	3,737	3,776	2,980	3,037	3,062	3,682	4,421	5,004	44,067
1923	5,306	4,402	4,927	4,318	4,524	4,204	4,181	3,714	3,607	4,816	5,416	5,825	55,330

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of these markets.

TABLE 483.—*Hogs: Receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1900–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	1,502	1,265	1,240	1,190	1,424	1,333	1,043	1,025	1,029	1,303	1,428	1,414
1901	1,528	1,457	1,174	1,222	1,523	1,275	1,461	1,110	940	1,150	1,694	1,811
1902	1,609	1,489	1,197	995	1,148	1,174	824	827	778	1,068	1,229	1,374
1903	1,316	1,175	938	1,016	1,195	1,171	1,107	961	875	836	1,068	1,437
1904	1,440	1,445	1,113	1,125	1,213	1,200	660	1,035	762	940	1,369	1,417
1905	1,610	1,269	1,249	1,043	1,297	1,357	999	935	884	1,128	1,315	1,473
1906	1,608	1,356	1,206	1,075	1,306	1,372	1,144	1,149	837	947	1,046	1,221
1907	1,499	1,332	1,165	1,210	1,455	1,312	1,298	1,020	925	930	894	1,403
1908	2,225	1,672	1,445	1,086	1,454	1,315	1,072	992	937	1,353	1,580	1,703
1909	1,703	1,359	1,002	1,161	1,299	1,187	929	823	846	966	1,184	1,261
1910	1,179	1,128	934	788	1,057	1,138	892	893	687	768	1,020	1,134
1911	1,270	1,302	1,516	1,304	1,521	1,487	1,200	976	970	1,231	1,533	1,451
1912	1,908	1,612	1,358	1,252	1,381	1,218	1,002	846	763	1,093	1,207	1,387
1913	1,640	1,315	1,170	1,154	1,257	1,328	1,129	1,095	1,081	1,153	1,288	1,655
Av. 1909–1913	1,540	1,343	1,316	1,132	1,303	1,272	1,048	927	869	1,042	1,246	1,378
1914	1,479	1,328	1,182	1,001	1,065	1,107	927	832	827	1,093	1,158	1,640
1915	1,669	1,640	1,511	1,080	1,234	1,222	1,037	921	803	848	1,387	2,066
1916	2,313	1,950	1,516	1,154	1,306	1,283	1,090	1,221	954	1,407	1,996	2,091
1917	2,199	1,697	1,367	1,205	1,320	1,125	1,083	757	545	902	1,286	1,461
1918	1,657	1,888	1,963	1,697	1,464	1,246	1,356	1,047	932	1,376	1,794	2,207
1919	2,418	1,978	1,631	1,571	1,644	1,680	1,314	829	913	1,129	1,485	2,049
1920	2,136	1,357	1,630	1,059	1,686	1,433	1,131	988	795	894	1,381	1,611
Av. 1914–1920	1,982	1,691	1,543	1,252	1,397	1,308	1,134	942	824	1,093	1,498	1,875
1921	1,916	1,708	1,346	1,276	1,340	1,493	1,122	1,092	946	1,092	1,459	1,558
1922	1,785	1,454	1,303	1,130	1,520	1,646	1,263	1,216	1,104	1,299	1,631	1,905
1923	2,173	1,879	2,017	1,778	1,840	1,730	1,827	1,616	1,515	1,917	2,049	2,215

Division of Statistical and Historical Research. Prior to 1915 from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 484.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923.*

RECEIPTS.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Albany, N. Y.		26	50	5	2	2	1	(1)	(1)
Amarillo, Tex.	11	26	19	11	2	7	8	108	65
Atlanta, Ga.			36	47	83	68	91	124	201
Augusta, Ga.			7	8	9	7	10	11	11
Baltimore, Md.	969	1,062	810	805	963	1,154	1,238	1,343	1,547
Billings, Mont.		(1)	5	5	10	1	1		
Birmingham, Ala.		6	2	14	24	24	27	2	1
Boston, Mass.	8	22	20	14	22	14	8	8	5
Buffalo, N. Y.	1,806	1,692	1,114	1,301	1,352	1,494	1,608	1,475	1,831
Chattanooga, Tenn.		16	14	13	14	11	17	13	16
Cheyenne, Wyo.			9	1	3	10	45	35	69
Chicago, Ill.	7,652	9,188	7,169	8,614	8,672	7,526	8,148	8,156	10,460
Cincinnati, Ohio.	1,180	1,260	1,239	1,463	1,674	1,478	1,435	1,347	1,491
Cleveland, Ohio.	977	970	898	1,314	1,084	1,012	900	1,092	1,185
Columbia, S. C.		8	4	3	6	7	4	9	15
Columbus, Ohio.	69	63	55	65	52	69	61	53	74
Dallas, Tex.		101	87	62	45	56	52	71	111
Dayton, Ohio.	118	91	88	118	108	129	131	139	167
Denver, Colo.	344	467	362	384	368	341	334	305	495
Detroit, Mich.	543	650	431	408	389	444	359	445	538
Dublin, Ga.			(1)	4	3	3	3	6	
East St. Louis, Ill.	2,592	3,057	2,706	3,256	3,651	3,399	3,330	3,606	4,831
El Paso, Tex.	4	13	21	19	17	15	29	35	27
Emeryville, Calif.			18	5	10	16	21	32	
Erie, Pa.				78	42	61			
Evansville, Ind.		139	148	222	255	243	219	235	256
Fort Wayne, Ind.									58
Fort Worth, Tex.	464	968	1,062	763	588	413	382	510	446
Fostoria, Ohio.	68	76	67	96	79	99	107	105	111
Indianapolis, Ind.	2,435	2,576	2,351	2,750	2,936	2,897	2,695	2,267	2,876
Jacksonville, Fla.		12	16	72	78	100	99	81	107
Jersey City, N. J.	1,175	1,137	744	506	468	629	509	458	513
Kansas City, Mo.	2,531	2,979	2,277	3,328	3,141	2,466	2,205	2,655	3,615
Knoxville, Tenn.	11	11	15	12	37	42	14	57	44
Lafayette, Ind.	98	119	123	186	198	204	166	105	129
Lancaster, Pa.	19	26	398	578	63	185	44	76	155
Laredo, Tex.									2
Logansport, Ind.	21	13	10	15	16	23	26	19	11
Los Angeles, Calif.									227
Louisville, Ky.	393	738	680	758	750	428	382	497	626
Marion, Ohio.				49	155	217	95	109	108
Memphis, Tenn.		1	(1)	3	11	30	8	10	85
Milwaukee, Wis.	583	536	411	545	585	554	489	466	555
Mobile, Ala.	5	7	4						
Montgomery, Ala.			10	48	171	109	97	95	73
Moultrie, Ga.							42	52	33
Nashville, Tenn.		337	479	581	727	615	436	517	492
Nebraska City, Nebr.				274	298	311	324	346	
Newark, N. J.									576
New Brighton, Minn.	3	3	8	4	3	7	1	1	
New Orleans, La.		61	58	50	63	63	50	41	46
New York, N. Y.	363	349	552	651	677	755	962	1,091	1,160
North Salt Lake, Utah.		59	42	45	53	84	86	84	234
Ogden, Utah.			57	59	104	78	177	198	256
Oklahoma, Okla.	485	759	634	571	470	341	371	504	488
Omaha, Nebr.	2,643	3,117	2,797	3,430	3,179	2,708	2,665	2,839	3,649
Orangeburg, S. C.				9	2				
Pasco, Wash.				6	7	2	2	1	2
Peoria, Ill.	281	370	262	395	390	354	424	386	573
Philadelphia, Pa.	168	227	219	273	345	481	485	473	358
Pittsburgh, Pa.	1,091	878	1,746	1,808	1,779	2,439	2,277	2,690	3,054
Portland, Oreg.	303	323	222	228	205	175	150	224	287
Pueblo, Colo.	5	19	17	23	24	14	5	11	16
Richmond, Va.	73	99	78	60	156	212	170	219	273
Roanoke, Va.									9

[1] Less than 500.

TABLE 484.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

RECEIPTS—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
St. Joseph, Mo	1,696	2,190	1,920	2,351	2,126	1,914	1,785	2,061	2,457
St. Louis, Mo	350	392	340	331					
St. Paul, Minn	2,155	2,674	1,928	2,061	2,190	2,247	2,209	2,523	3,338
San Antonio, Tex	36	59	40	30	25	39	70	63	61
Seattle, Wash		179	130	127	126	95	134	151	218
Sioux City, Iowa	1,761	2,131	2,149	2,421	2,322	2,173	1,739	1,856	2,989
Sioux Falls, S. Dak			6	62	174	247	452	533	503
Spokane, Wash	6	37	38	44	60	47	33	48	82
Springfield, Ohio									64
Tacoma, Wash		38	19	32	30	35	59	65	
Toledo, Ohio	250	304	278	255	232	264	148	140	158
Washington, D. C		82	58	56	72	102	113	132	166
Wichita, Kans	476	573	495	618	494	382	309	570	706
Total	36,213	43,265	38,042	44,863	44,469	42,121	41,101	44,067	55,330

LOCAL SLAUGHTER.

Albany, N. Y			3	1	2	2	(1)	(1)	
Atlanta, Ga			27	24	37	42	61	62	95
Augusta, Ga			5	3	5	5	7	9	7
Baltimore, Md	726	747	558	514	661	874	1,013	1,020	1,202
Billings, Mont		(1)	2	1	(1)	(1)	(1)		
Birmingham, Ala		6	2	14	24	24	27	2	1
Buffalo, N. Y		784	488	617	730	631	670	663	834
Chattanooga, Tenn				7	13	11	17	13	16
Chicago, Ill	6,519	7,784	5,950	7,643	7,572	5,870	5,977	6,323	8,092
Cincinnati, Ohio	656	601	688	706	823	789	898	809	784
Cleveland, Ohio	826	776	578	850	729	610	688	750	927
Columbia, S. C		7	(1)	3	6	7	4	9	15
Columbus, Ohio	5	18	12	7	4	14	14	6	3
Dallas, Tex		101	87	62	45	56	52	71	111
Dayton, Ohio	83	67	57	60	61	76	83	99	101
Denver, Colo	331	444	327	366	336	310	311	367	394
Detroit, Mich		561	297	287	336	360	269	279	358
Dublin, Ga			(1)	(1)		(1)		(1)	
East St. Louis, Ill	1,600	1,987	1,680	2,276	2,231	1,678	1,289	1,229	1,842
El Paso, Tex			15	7	9	11	14	17	22
Emeryville, Calif			18	5	10	16	21	32	
Erie, Pa				15	16	15			
Evansville, Ind		24	36	40	31	80	73	65	78
Fort Wayne, Ind									18
Fort Worth, Tex	392	860	797	568	464	322	277	416	377
Fostoria, Ohio		1	27	13	10	10	11	7	9
Indianapolis, Ind	1,496	1,511	1,326	1,394	1,434	1,359	1,377	1,528	1,792
Jacksonville, Fla			15	68	66	72	47	26	26
Jersey City, N. J	1,175	1,137	744	566	468	629	509	458	513
Kansas City, Mo	2,114	2,527	1,978	2,655	2,600	1,838	1,713	2,052	2,721
Knoxville, Tenn	1	4	6	1	3	2	9	18	22
Lafayette, Ind		57	39	33	37	40	44	56	61
Lancaster, Pa				8	13	11	17	20	20
Laredo, Tex									2
Logansport, Ind	(1)	1	(1)	(1)	1	2	1	2	1
Los Angeles, Calif									211
Louisville, Ky	129	168	132	138	173	156	180	231	365
Marion, Ohio				2	10	13	16	29	28
Memphis, Tenn					2	1	4	6	65
Milwaukee, Wis	566	520	394	463	534	500	482	480	548
Mobile, Ala	4	4	2						
Montgomery, Ala					3	5	2	3	5
Moultrie, Ga							26	45	26
Nashville, Tenn		20	46	57	67	82	113	125	180
Nebraska City, Nebr				264	271	258	267	267	

[1] Less than 500.

TABLE 484.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

LOCAL SLAUGHTER—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Newark, N. J.									576
New Orleans, La.		52	41	36	43	45	40	34	42
New York, N. Y.	363	349	552	651	677	755	902	1,091	1,160
North Salt Lake, Utah		1	31	39	39	25	36	42	51
Ogden, Utah			3	52	67	47	47	47	66
Oklahoma, Okla.	476	732	530	504	360	288	331	449	419
Omaha, Nebr.	2,012	2,391	2,001	2,541	2,531	1,998	1,971	2,226	2,780
Orangeburg, S. C.				9	2				
Pasco, Wash.				(1)	(1)	(1)			
Peoria, Ill.	125	132	96	143	153	135	164	105	118
Philadelphia, Pa.			202	264	329	457	457	439	331
Pittsburgh, Pa.	157	155	290	279	279	413	505	507	597
Portland, Oreg.	173	189	129	137	103	91	112	158	187
Pueblo, Colo.				(1)			1	(1)	(1)
Richmond, Va.	70	5	74	58	154	210	169	216	260
Roanoke, Va.									3
St. Joseph, Mo.	1,524	2,107	1,833	2,064	1,919	1,584	1,517	1,706	2,001
St. Louis, Mo.	337	347	295	301					
St. Paul, Minn.	1,370	1,499	1,008	1,307	1,317	1,905	1,668	2,039	2,728
San Antonio, Tex.			28	15	7	16	33	41	45
Seattle, Wash.		179	130	125	124	92	132	149	214
Sioux City, Iowa	1,189	1,307	1,257	1,511	1,411	1,296	1,047	1,104	1,781
Sioux Falls, S. Dak.			(1)	(1)	(1)	5	57	74	69
Spokane, Wash.	3	18	25	34	42	32	21	32	58
Springfield, Ohio									5
Tacoma, Wash.		38	19	30	31	34	58	65	
Toledo, Ohio		102	53	46	53	86	24	14	21
Washington, D. C.		82	55	54	71	101	112	129	165
Wichita, Kans.	471	564	392	503	469	356	348	527	623
Total	24,893	30,984	25,440	30,441	30,018	26,761	26,335	28,737	36,172

Local slaughter, compiled from reports of stock sold or driven out for local slaughter, made by stockyards to the Livestock, Meats, and Wool Division.

STOCKER AND FEEDER SHIPMENTS.

Market.	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex.			(1)	(1)	1			
Atlanta, Ga.			4	4	8	5		1
Augusta, Ga.		(1)	1	1	(1)	(1)	1	(1)
Billings, Mont.		1	1	3	(1)			
Birmingham, Ala.	(1)		(1)					
Buffalo, N. Y.		2	1	(1)	(1)	(1)		
Chattanooga, Tenn.			2	1				
Chicago, Ill.		45	25	14	1	2	3	2
Cincinnati, Ohio			2	1	3	4	2	4
Columbus, Ohio	(1)		1	1	1	1		
Dayton, Ohio			(1)					
Denver, Colo.	9	22	17	32	30	22	26	93
Detroit, Mich.	(1)	1	2	8	5	5	(1)	(1)
Dublin, Ga.			(1)	(1)	(1)	(1)	1	
East St. Louis, Ill.	13	12	77	98	47	44	63	41
El Paso, Tex.		(1)	8	4	3	8	5	2
Evansville, Ind.		12	10	10	4	4	9	6
Fort Wayne, Ind.								1
Fort Worth, Tex.		27	89	55	24	52	34	22
Fostoria, Ohio		2	5	3	1	2	4	4
Indianapolis, Ind.		35	45	41	17	21	17	18
Jacksonville, Fla.	2	(1)	3	1	2		(1)	
Kansas City, Mo.	22	18	175	244	200	94	162	283
Knoxville, Tenn.		(1)	1	1	(1)	1	2	
Lafayette, Ind.	(1)	5	1	3	5	7	5	3

[1] Less than 500.

TABLE 484.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

STOCKER AND FEEDER SHIPMENTS—Continued.

Market.	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Logansport, Ind	(1)	1	(1)	(1)	(1)	1	(1)	(1)
Los Angeles, Calif								17
Louisville, Ky			17	28	11	8	19	2
Marion, Ohio			1	4	2	2	3	2
Memphis, Tenn	(1)			(1)	4	1	2	6
Milwaukee, Wis		(1)	(1)	(1)				
Montgomery, Ala		1	1	22	15	9	12	10
Moultrie, Ga						3	1	1
Nashville, Tenn	23		36	28	18	2	1	1
Nebraska City, Nebr			(1)	(1)		(1)	3	
Newark, N. J								(1)
New Brighton, Minn	(1)	4	1	2	4	1	(1)	
New Orleans, La		4	3	3	3	1	1	3
North Salt Lake, Utah	1	5	1	4	3	2	1	1
Ogden, Utah		1	1	13	11	2	5	4
Oklahoma, Okla	18	70	69	43	21	13	9	17
Omaha, Nebr	26	73	13	8	7	4	6	14
Pasco, Wash			1					
Peoria, Ill		1	4	(1)	3	8	5	7
Philadelphia, Pa			1					
Portland, Oreg	3	14	18	15	17	11	17	18
Pueblo, Colo			(1)		(1)	(1)		
Richmond, Va			(1)	1	(1)	(1)	(1)	2
St. Joseph, Mo	11	33	34	27	24	9	11	17
St. Paul, Minn	23	232	173	103	161	104	109	151
San Antonio, Tex	20	1	2	2	2	4	13	10
Seattle, Wash			2	2	3	1	1	3
Sioux City, Iowa	8	109	41	33	28	19	9	9
Sioux Falls, S. Dak		5	3	2	2	3	4	4
Spokane, Wash		8	9	15	12	6	7	9
Tacoma, Wash			(1)	(1)				
Toledo, Ohio			1	2	2	(1)		(1)
Wichita, Kans	6	44	87	20	23	13	20	32
Total	194	788	989	902	728	499	593	829

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Less than 500.

TABLE 485.—*Swine: Shipments of feeder swine from public stockyards, 1923.*

ORIGIN.

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Denver, Colo	1,880	1,710	547	1,042	1,273	758	978	673	606	520	865	1,071	11,923
Fort Worth, Tex	2,076	3,270	3,568	2,763	1,286	852	1,557	3,300	1,836	840	1,612	915	23,935
Indianapolis, Ind	1,020	617	887	1,097	2,600	3,668	892	750	1,615	1,884	1,116	462	16,308
Kansas City, Kans	21,100	18,243	17,967	18,352	15,525	11,255	6,114	27,621	55,589	43,442	21,834	8,416	265,458
Los Angeles, Cal	1,425	1,782	1,937	1,676	339	236	692	1,118	758	1,658		207	11,828
Nat'l Stockyards, Ill	1,504	1,107	4,488	7,096	5,526	3,541	1,044	1,815	4,089	807	592	836	32,505
Oklahoma, Okla	1,026	1,460	5,117	2,400	1,586	838	360	4,379	3,184	2,563	2,486	2,165	27,564
Omaha, Nebr	772	1,131	1,443	2,334	1,502	1,236	1,070	817	760	1,242	1,201	1,635	15,149
Portland, Oreg	1,050	1,993	1,494	1,265	2,141	1,238	1,088	1,444	1,657	2,020	1,715	1,224	18,929
Sioux City, Ia	860	925	1,426	2,858	1,547	1,249	211	240	383	191	199	56	10,145
South St. Joseph, Mo		144	172	138		123	28	165	82	328	50	332	1,562
South St. Paul, Minn	13,436	13,647	13,508	12,996	14,095	9,635	5,463	3,011	7,594	15,949	15,219	11,199	136,142
Wichita, Kans	1,642	852	2,546	2,582	1,421	663	1,025	1,470	6,373	5,033	3,855	3,808	31,270
All other	4,896	2,704	4,821	3,294	3,330	1,941	2,483	3,858	3,190	2,823	2,358	2,668	38,381
Total	52,687	49,585	60,311	59,893	52,171	37,233	23,605	50,721	87,722	79,060	53,097	35,014	641,099

TABLE 485.—*Swine: Shipments of feeder swine from public stockyards, 1923*—Continued.

DESTINATION.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
California	1,627	1,782	1,937	1,676	339	493	692	709	2,149	3,189	384	1,159	16,133
Colorado	1,160	1,560	547	852	997	453	844	673	606	317	1,008	1,071	10,128
Illinois	7,982	6,200	6,359	9,553	5,565	5,543	3,243	8,434	20,435	14,334	5,236	3,125	96,009
Indiana	1,860	846	887	2,526	2,723	3,804	892	987	4,048	3,585	1,534	1,059	24,751
Iowa	15,412	15,810	16,655	19,894	15,708	10,628	4,518	13,066	25,370	20,602	11,953	5,891	175,507
Kansas	3,095	2,814	4,088	3,897	1,209	1,117	------	2,107	2,122	1,844	2,122	2,087	26,082
Michigan	------	940	492	1,096	2,624	1,042	237	264	231	2,595	397	------	9,918
Minnesota	3,036	1,614	4,057	2,197	2,723	3,654	2,392	1,989	1,156	2,558	4,396	4,524	34,295
Missouri	8,202	7,295	10,173	6,158	5,662	2,866	2,938	5,923	8,053	5,209	2,974	2,333	69,874
Nebraska	1,937	2,171	3,120	3,106	3,071	1,995	1,208	4,978	14,002	13,789	9,856	3,488	62,811
Ohio	668	348	448	1,241	1,155	719	402	656	1,742	1,612	1,888	284	11,163
Oklahoma	507	260	3,686	901	1,111	376	216	2,279	729	489	864	2,143	13,561
Oregon	996	1,918	1,439	1,004	2,021	1,167	1,682	1,444	1,521	1,997	1,600	1,180	18,059
Tennessee	1,175	660	1,514	327	404	2	183	455	404	154	244	673	6,195
Texas	1,331	962	1,374	1,503	998	857	1,360	2,059	1,788	1,881	2,487	2,396	18,996
All other	3,609	4,405	3,535	4,482	5,801	2,507	2,708	4,690	3,366	4,914	4,155	3,629	47,757
Total	52,687	49,585	60,311	59,893	52,171	37,233	23,605	50,721	87,722	79,060	53,097	35,014	641,029

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

TABLE 486.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923.*[1]

Stockyards.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Buffalo, N. Y.:													
Receipts	164	132	143	161	144	117	127	116	120	176	200	231	1,831
Local slaughter	68	54	62	57	66	59	57	52	56	80	96	117	834
Chicago, Ill.:													
Receipts	1,000	870	877	721	803	835	929	732	622	844	1,058	1,169	10,460
Local slaughter	661	595	671	591	663	692	689	533	484	685	887	941	8,092
Stocker and feeder shipments	(1)	------	(1)	(1)	1	1	------	(1)	(1)	(1)	(1)	(1)	2
Cincinnati, Ohio:													
Receipts	108	106	114	107	121	102	96	98	100	155	149	145	1,401
Local slaughter	70	58	69	64	67	64	58	62	51	70	73	78	784
Stocker and feeder shipments	(1)	(1)	1	(1)	1	(1)	(1)	1	(1)	1	(1)	(1)	4
Cleveland, Ohio:													
Receipts	91	77	109	100	96	93	72	69	77	97	147	157	1,185
Local slaughter	63	54	83	77	72	75	54	55	60	76	123	135	927
Denver, Colo.:													
Receipts	56	46	44	49	50	39	34	31	25	37	41	43	495
Local slaughter	47	36	40	40	36	27	23	23	19	27	36	39	393
Stocker and feeder shipments	7	8	3	7	11	14	10	9	6	8	5	5	93
East St. Louis, Ill.:													
Receipts	453	382	422	393	420	349	339	336	375	480	451	432	4,831
Local slaughter	169	125	170	176	186	151	131	109	115	165	170	175	1,943
Stocker and feeder shipments	4	4	5	7	4	3	1	2	6	3	1	1	41
Fort Worth, Tex.:													
Receipts	43	44	68	50	38	20	21	27	42	44	45	44	486
Local slaughter	34	34	56	41	28	14	17	18	34	29	33	39	377
Stocker and feeder shipments	3	3	3	2	1	1	1	3	1	1	2	1	22
Indianapolis, Ind.:													
Receipts	234	166	191	184	238	242	244	210	195	259	337	376	2,876
Local slaughter	169	114	139	116	146	152	136	122	113	155	204	296	1,792
Stocker and feeder shipments	1	1	1	2	2	3	1	1	2	3	1	(1)	18
Jersey City, N. J.:													
Receipts	54	42	41	45	34	30	29	44	35	57	51	51	513
Local slaughter	54	42	41	45	34	30	29	44	35	57	51	51	513

[1] Less than 500

TABLE 486.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923*—Continued.

Stockyards.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Kansas City, Mo.:													
Receipts	352	289	297	331	330	231	200	221	323	397	328	316	3,615
Local slaughter	276	239	261	277	278	173	140	123	197	280	258	219	2,721
Stocker and feeder shipments	22	19	18	20	16	11	6	30	60	46	24	11	283
Oklahoma, Okla.:													
Receipts	38	40	66	48	43	24	19	42	54	28	38	48	488
Local slaughter	35	37	59	43	40	22	16	34	46	20	28	39	419
Stocker and feeder shipments	1	1	3	2	1	1	(1)	2	2	2	2	(1)	17
Omaha, Nebr.:													
Receipts	368	338	421	333	287	315	359	327	196	196	211	298	3,649
Local slaughter	312	283	361	245	227	238	261	223	157	166	185	272	2,780
Stocker and feeder shipments	1	1	1	2	2	1	1	1	1	1	1	1	14
Pittsburgh, Pa.:													
Receipts	305	238	241	248	240	208	211	214	225	263	324	337	3,054
Local slaughter	57	43	42	43	47	51	44	44	40	58	62	66	597
St. Joseph, Mo.:													
Receipts	266	231	259	185	197	205	189	167	146	171	210	231	2,457
Local slaughter	218	190	212	152	173	168	154	116	109	144	180	185	2,001
Stocker and feeder shipments	(1)	1	1	2	2	2	1	1	1	2	2	2	17
St. Paul, Minn.:													
Receipts	375	288	269	222	278	255	203	125	158	331	409	430	3,338
Local slaughter	292	228	225	191	237	219	173	108	130	268	321	336	2,728
Stocker and feeder shipments	14	14	14	13	16	11	6	3	8	13	19	15	151
Sioux City, Iowa:													
Receipts	243	236	338	220	265	332	307	243	141	190	207	267	2,989
Local slaughter	152	153	203	133	153	166	148	141	96	129	140	167	1,781
Stocker and feeder shipments	(1)	1	2	4	1	1	(1)	(1)	(1)	(1)	(1)	------	9

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Data on local slaughter as reported by stockyards.

[1] Less than 500.

TABLE 487.—*Hogs: Farm price per 100 pounds, 15th of month, United States, 1910–1923.*

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910–11	7.61	7.16	7.44	7.04	6.74	6.17	5.72	5.66	5.92	6.54	6.53	6.09	6.61
1911–12	5.86	5.72	5.74	5.79	5.94	6.78	6.79	6.65	6.64	7.11	7.47	7.70*	6.43
1912–13	7.05	6.89	6.77	7.17	7.62	7.94	7.45	7.61	7.81	7.79	7.68	7.60	7.39
1913–14	7.33	7.16	7.45	7.75	7.80	7.80	7.60	7.43	7.72	8.11	8.11	7.43	7.60
Av. 1910–1913	6.96	6.73	6.85	6.94	7.02	7.17	6.89	6.84	7.02	7.39	7.45	7.20	7.01
1914–15	7.00	6.67	6.57	6.34	6.33	6.48	6.77	6.80	6.84	6.61	6.79	7.18	6.69
1915–16	6.35	6.02	6.32	7.07	7.86	8.21	8.37	8.21	8.40	8.61	9.22	8.67	7.61
1916–17	8.74	8.76	9.16	10.33	12.32	13.61	13.72	13.50	13.35	14.24	15.69	16.15	12.10
1917–18	15.31	15.73	15.26	15.03	15.58	15.76	15.64	15.27	15.58	16.89	17.50	16.50	15.78
1918–19	15.93	15.82	15.69	15.53	16.13	17.39	18.90	17.80	19.22	19.30	15.81	13.88	16.60
1919–20	13.86	12.66	13.36	13.62	13.59	13.73	13.44	13.18	13.65	13.59	13.98	12.57	13.43
1920–21	11.64	8.90	8.72	8.58	9.13	7.96	7.62	7.22	8.09	8.73	7.51	7.31	8.52
Av. 1914–1920	11.19	10.65	10.73	10.93	11.56	11.88	11.97	11.73	12.16	12.57	12.36	11.89	11.53
1921–22	6.66	6.52	6.89	8.24	9.06	8.83	9.65	9.11	9.12	8.54	8.23	8.33	8.10
1922–23	7.78	7.83	7.77	7.65	7.52	7.45	7.13	6.37	6.66	6.85	7.81	7.23	7.34
1923–24	6.66	6.39	------	------	------	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 488.—*Live hogs: Exports from the United States, 1910–1924.*

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
1909–10	283	136	253	304	166	101	340	31	77	810	1,126	783	4,410
1910–11	484	103	25	41	29	170	67	18	759	1,989	1,807	3,060	8,551
1911–12	1,823	1,230	662	437	182	1,213	2,100	2,147	3,508	2,335	2,314	1,087	19,038
1912–13	305	271	617	868	216	1,710	2,429	2,597	2,530	2,256	1,223	310	15,332
1913–14	174	130	101	123	173	72	1,401	1,304	1,770	1,697	1,240	1,987	10,122
1914–15	1,488	426	286	211	526	113	73	229	570	1,476	1,536	865	7,799
1915–16	579	147	379	346	448	613	2,116	4,299	9,300	1,977	584	1,260	22,048
1916–17	2,388	683	671	1,416	1,170	2,437	3,207	2,520	2,126	2,827	1,540	931	21,926
1917–18	559	408	105	403	205	752	594	411	919	2,028	1,267	1,634	9,280
1918–19	747	393	310	838	379	788	1,757	2,615	1,651	2,983	2,840	2,089	17,390
1919–20	755	413	1,117	1,893	3,840	2,792	2,093	2,279	3,520	4,934	6,027	6,444	36,107
1920–21	5,890	2,959	4,813	6,718	4,624	4,949	10,643	10,369	13,129	13,008	13,987	12,103	103,192
1921–22	6,006	8,072	6,316	7,581	10,079	11,774	10,841	9,711	8,805	8,389	6,036	4,145	97,755
1922–23	4,639	4,840	4,305	6,049	5,221	4,780	6,182	6,228	9,061	8,000	9,304	7,490	76,099
1923–24	7,029	7,403	4,577	7,336	7,271	7,163	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

TABLE 489.—*Hogs: Monthly average live weight at four markets, 1900–1923.*

CHICAGO.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs*
1900	229	226	223	223	228	229	236	246	247	234	240	238
1901	227	222	222	226	227	231	229	238	248	236	218	202
1902	203	208	216	214	219	223	230	243	241	227	224	217
1903	208	200	215	222	227	231	235	248	257	241	228	219
1904	206	205	206	208	214	221	226	239	244	230	232	228
1905	213	209	211	216	219	222	228	236	241	234	230	221
1906	217	215	218	221	226	226	231	241	248	237	229	225
1907	223	222	228	234	235	236	240	250	253	235	209	214
1908	215	212	212	219	218	217	222	224	219	207	213	211
1909	203	204	206	212	216	219	225	232	232	227	225	214
1910	210	213	218	227	239	242	246	255	259	253	232	224
1911	226	230	239	241	242	236	233	239	224	212	208	213
1912	212	217	218	227	232	235	239	240	235	226	222	223
1913	226	230	240	242	242	244	243	233	222	209	207	213
Av. 1909–1913	215	219	224	230	234	235	237	240	234	225	219	217
1914	216	224	233	233	236	237	244	248	242	229	218	226
1915	223	224	231	233	233	231	238	246	235	204	187	190
1916	195	204	214	219	220	226	231	232	223	210	195	193
1917	199	204	209	213	217	225	232	233	231	212	209	211
1918	216	231	238	242	238	235	243	243	247	238	226	223
1919	228	232	230	230	232	233	242	251	254	237	226	221
1920	239	239	244	248	245	243	252	258	258	247	234	230
Av. 1914–1920	217	223	228	231	232	233	240	244	241	225	214	214
1921	234	234	241	242	239	241	250	259	262	243	225	226
1922	231	236	244	246	244	247	259	268	265	243	231	234
1923	239	241	247	249	242	242	250	256	254	247	234	231

EAST ST. LOUIS.

1910	178	165	171	176	198	206	184	193	215	205	205	191
1911	188	195	202	197	170	180	190	185	186	173	169	159
1912	158	162	167	165	191	196	174	181	196	182	178	176
1913	182	180	170	179	181	183	185	183	182	182	178	169
1914	169	177	174	180	174	177	174	174	173	169	175	166
1915	170	174	176	175	175	180	180	186	183	165	169	174
1916	172	173	171	171	178	180	181	176	168	162	184	172
1917	175	179	175	171	175	173	177	175	182	181	181	185
1918	190	190	189	186	181	180	182	174	174	178	182	188
1919	189	184	173	176	182	182	181	183	181	176	183	181
1920	186	188	182	190	185	180	182	186	184	177	176	181
Av. 1914–1920	179	181	177	178	179	179	180	179	178	173	179	178
1921	211	210	200	198	198	201	204	206	196	196	205	207
1922	209	198	197	188	194	190	200	196	170	189	198	203
1923	211	206	198	197	193	200	250	205	201	192	200	207

TABLE 489.—*Hogs: Monthly average live weight at four markets, 1900–1923*—Con.

KANSAS CITY.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1900	220	218	210	207	213	210	206	219	214	213	218	218
1901	213	210	207	207	210	205	187	187	185	199	179	173
1902	172	176	188	194	196	198	205	209	208	217	223	224
1903	224	220	218	223	215	211	213	216	232	223	211	220
1904	222	222	216	210	211	208	206	210	206	195	192	194
1905	203	203	215	215	212	205	203	210	207	208	213	214
1906	219	214	210	212	209	204	204	204	211	214	215	212
1907	220	221	221	219	212	207	209	212	216	208	199	206
1908	216	215	208	213	206	197	195	191	189	181	194	199
1909	202	204	199	201	198	198	200	203	192	194	198	198
1910	205	202	208	209	210	209	206	206	217	213	217	223
1911	226	225	223	223	213	197	188	201	195	185	182	182
1912	189	199	195	205	203	203	205	204	199	198	206	205
1913	213	212	213	216	208	206	202	193	190	185	178	178
Av. 1909–1913.	207	208	208	211	206	203	200	201	199	195	196	197
1914	183	193	200	195	197	193	196	192	192	191	186	188
1915	201	204	201	204	204	197	199	202	198	192	194	203
1916	204	199	203	204	202	202	204	188	181	171	172	183
1917	189	189	192	191	193	196	190	180	183	195	198	206
1918	218	221	218	218	213	206	206	191	172	173	185	194
1919	200	201	191	194	193	194	194	193	181	175	187	189
1920	223	227	229	228	211	213	221	226	222	216	218	225
Av. 1914–1920.	203	205	204	205	202	200	201	196	190	188	191	198
1921	236	236	233	229	224	211	223	225	216	222	216	223
1922	226	215	213	220	215	211	216	217	211	206	208	212
1923	222	221	221	215	207	216	222	228	225	206	212	218

OMAHA.

1900	257	237	243	236	239	239	234	240	249	245	253	252
1901	234	231	232	232	234	242	231	236	246	250	235	212
1902	209	211	220	228	230	232	233	242	253	259	262	256
1903	242	235	236	247	248	253	254	265	273	278	268	265
1904	250	231	235	236	232	233	232	244	252	251	267	265
1905	256	236	239	236	237	241	233	238	245	251	252	248
1906	234	226	228	230	232	232	233	246	253	254	248	246
1907	244	237	244	252	250	250	254	260	263	260	244	219
1908	233	228	230	233	228	226	227	229	226	222	238	237
1909	231	223	227	233	232	229	236	239	240	242	248	234
1910	229	226	231	235	249	249	250	259	278	284	274	262
1911	245	243	254	255	254	245	242	253	265	265	243	225
1912	217	222	222	231	233	234	232	238	241	235	235	238
1913	234	229	238	241	244	245	247	244	249	233	219	218
Av. 1909–1913.	231	229	234	239	242	240	241	247	255	252	244	235
1914	224	232	238	242	247	250	255	261	268	265	253	242
1915	241	238	244	252	256	248	249	264	274	265	252	230
1916	216	216	224	228	232	236	243	247	249	249	224	211
1917	218	223	226	229	233	239	245	245	256	257	260	243
1918	240	243	249	242	246	248	261	260	264	264	240	227
1919	229	235	236	245	238	244	245	255	275	281	271	249
1920	242	242	250	251	247	247	256	263	272	271	260	248
Av. 1914–1920.	230	233	238	241	243	245	251	256	265	265	251	236
1921	248	246	252	260	259	255	260	274	288	274	244	232
1922	235	238	247	255	257	258	267	280	286	276	249	238
1923	241	244	253	260	255	256	260	263	269	272	262	247

Division of Statistical and Historical Research. Figures for Chicago, Kansas City, and Omaha prior to 1920, and for East St. Louis prior to 1921, compiled from yearbooks of stockyard companies. Subsequent figures compiled from reports of packer and shipper purchases, reporting service of the Livestock, Meats, and Wool Division.

TABLE 490.—*Hogs: Monthly farm price per 100 pounds, 15th of month, by States, 1923.*

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	8.90	9.20	8.50	8.50	8.50	8.00	8.40	8.30	8.10	8.20	8.30	8.00	8.41
New Hampshire	------	9.20	8.40	8.60	8.00	7.60	7.70	7.20	8.80	8.50	8.80	8.20	8.25
Vermont	8.10	8.20	8.10	8.00	7.70	7.00	8.00	7.20	8.10	7.80	7.20	7.20	7.72
Massachusetts	9.30	9.00	8.70	9.10	8.00	9.00	8.00	8.10	8.50	8.20	8.70	8.50	8.59
Rhode Island	9.60	10.20	9.00	9.30	9.50	9.00	9.10	8.00	7.80	8.50	8.60	8.60	8.93
Connecticut	9.00	7.50	8.00	7.50	8.50	8.10	8.00	8.00	------	8.80	8.10	8.30	8.16
New York	9.00	9.30	8.70	8.30	8.00	7.60	7.70	7.80	8.20	8.60	8.50	8.20	8.32
New Jersey	10.00	9.80	10.70	------	9.00	------	9.00	9.10	8.50	------	10.30	9.60	9.56
Pennsylvania	9.40	9.70	9.00	8.70	8.80	8.00	7.80	8.00	8.90	8.80	8.80	8.30	8.68
Delaware	10.20	10.00	9.10	10.00	------	------	8.60	9.00	9.90	10.00	11.00	10.60	9.84
Maryland	9.20	8.40	8.80	8.40	8.20	7.50	7.80	7.80	9.00	8.20	7.90	7.70	8.24
Virginia	8.80	8.70	8.40	8.90	8.00	7.80	7.60	7.80	8.50	8.50	8.20	7.50	8.22
West Virginia	8.60	8.70	8.50	8.50	8.30	8.20	7.80	8.10	8.10	8.30	7.90	8.00	8.25
North Carolina	10.20	10.00	9.70	9.40	9.70	9.20	9.20	8.90	9.80	10.10	9.50	9.30	9.58
South Carolina	8.70	8.40	8.40	7.80	8.30	8.00	8.20	8.10	8.30	8.70	8.80	8.60	8.36
Georiga	7.30	7.30	7.10	7.40	7.00	7.10	7.20	6.90	7.80	7.50	7.40	7.20	7.22
Florida	7.00	6.60	6.90	6.70	7.00	6.60	6.70	6.30	6.90	7.00	6.80	6.30	6.78
Ohio	8.20	8.20	8.00	7.80	7.60	6.50	7.10	7.40	8.30	7.60	6.70	6.40	7.48
Indiana	8.00	7.90	7.80	7.80	7.40	6.40	6.90	7.40	8.50	7.50	6.60	6.30	7.38
Illinois	7.80	7.70	7.60	7.60	7.10	6.10	6.70	7.20	8.20	7.30	6.50	6.20	7.17
Michigan	7.90	8.30	7.80	7.90	7.40	6.70	7.00	7.20	8.10	7.60	6.90	6.40	7.43
Wisconsin	7.70	7.70	7.60	7.50	7.10	6.20	6.30	6.50	7.60	7.10	6.30	6.00	6.97
Minnesota	7.60	7.40	7.30	7.30	6.90	6.00	6.10	6.50	7.50	6.60	6.10	5.70	6.75
Iowa	7.70	7.50	7.40	7.40	7.00	6.00	6.40	6.60	7.90	7.00	6.20	6.10	6.93
Missouri	7.00	7.50	7.40	7.20	6.80	6.00	6.30	6.50	7.60	6.70	6.10	5.80	6.79
North Dakota	6.80	6.80	7.00	6.70	6.50	5.80	5.40	5.50	6.30	5.90	5.50	5.30	6.12
South Dakota	7.40	7.20	7.10	7.10	6.50	5.50	5.90	6.20	7.30	6.60	6.00	5.60	6.53
Nebraska	7.40	7.20	7.00	7.00	6.60	5.50	6.00	6.30	7.60	6.70	6.00	5.80	6.59
Kansas	7.30	7.20	7.20	7.20	6.70	6.00	6.30	6.40	7.70	6.80	6.00	5.70	6.71
Kentucky	8.10	7.70	7.60	7.40	6.80	6.10	6.70	6.90	7.90	7.20	6.70	6.20	7.11
Tennessee	7.90	7.70	7.50	7.40	7.30	6.30	6.80	6.70	7.70	7.10	6.60	6.30	7.11
Alabama	7.10	7.30	7.10	7.40	7.20	7.10	7.00	7.00	7.20	7.60	7.30	7.20	7.21
Mississippi	7.20	7.00	7.20	6.80	6.70	6.40	6.30	6.20	6.90	6.70	6.50	6.50	6.70
Louisiana	7.20	7.30	6.80	6.80	6.50	7.00	7.20	7.30	8.00	7.00	6.30	6.80	7.07
Texas	7.10	7.00	6.70	6.60	6.60	6.20	6.40	6.20	6.90	6.80	7.00	6.80	6.69
Oklahoma	7.00	6.90	6.80	6.80	6.30	5.60	6.10	6.10	7.00	6.40	6.00	5.60	6.38
Arkansas	6.80	6.60	6.60	6.40	6.50	6.00	5.90	5.90	6.30	6.40	6.50	6.10	6.33
Montana	7.60	7.60	7.60	7.70	7.60	7.50	7.50	7.10	7.40	7.60	6.50	6.60	7.36
Wyoming	7.10	7.30	7.40	7.20	6.80	6.00	6.70	7.20	7.50	6.70	6.50	6.00	6.87
Colorado	7.30	7.20	7.10	7.10	6.50	6.00	6.30	6.50	7.70	7.00	6.50	6.10	6.78
New Mexico	7.90	7.10	7.10	7.10	7.20	6.10	6.50	6.90	7.00	7.30	6.50	6.90	6.97
Arizona	9.00	8.50	8.60	8.90	8.40	8.50	7.50	7.10	7.50	8.60	8.40	8.00	8.25
Utah	7.30	7.60	7.40	7.30	7.30	6.90	6.90	6.80	6.80	7.40	7.30	6.50	7.12
Nevada	8.90	9.00	9.00	8.70	8.40	------	8.10	7.70	------	8.60	8.00	7.90	8.43
Idaho	7.60	7.80	7.90	7.80	7.80	6.60	6.40	6.90	7.50	7.40	6.70	6.00	7.20
Washington	8.50	8.60	8.80	8.40	8.20	7.50	7.40	7.80	8.80	8.80	8.00	7.50	8.19
Oregon	8.10	8.30	8.70	8.40	8.40	7.70	7.50	8.20	7.80	7.70	8.10	7.20	8.01
California	9.30	9.00	8.70	8.60	8.40	8.30	8.30	8.30	8.70	8.60	8.60	7.50	8.52
United States	7.77	7.65	7.52	7.45	7.13	6.37	6.68	6.85	7.81	7.23	6.66	6.39	7.13

Division of Crop and Livestock Estimates.

TABLE 491.—*Hogs: Corn and hog ratios,*[1] *United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
1910	12.2	12.0	13.6	14.4	13.3	12.9	12.2	11.7	13.0	14.2	15.1	14.9	13.3
1911	15.3	14.4	13.7	12.1	10.7	9.8	9.4	9.9	9.9	9.3	9.3	9.2	11.1
1912	9.1	8.8	8.6	9.0	8.4	8.1	8.3	9.1	10.1	12.0	13.2	14.1	9.9
1913	13.6	13.9	14.4	14.4	12.7	12.3	12.1	11.1	10.2	10.4	10.5	10.3	12.2
1914	10.8	11.3	11.2	10.9	10.3	9.9	10.1	10.3	10.8	10.0	10.4	10.2	10.5
1915	9.5	8.6	8.4	8.5	8.7	8.7	8.7	8.5	9.2	10.8	10.6	10.1	9.2
1916	9.8	10.5	11.4	11.5	11.4	11.0	10.9	10.6	11.1	10.4	10.1	9.8	10.7
1917	9.9	10.5	11.5	10.3	8.8	8.3	7.4	7.7	9.0	10.1	11.2	12.0	9.7
1918	11.2	10.3	10.1	10.2	10.3	10.0	9.9	10.1	10.8	11.0	11.5	11.3	10.6
1919	11.1	11.3	11.2	11.1	10.8	10.2	10.5	10.2	9.3	9.7	9.2	9.2	10.3
1920	9.3	9.2	8.9	8.4	7.6	7.1	7.8	8.5	10.1	13.0	15.0	13.2	9.8
1921	13.5	13.5	14.3	13.0	12.5	11.0	13.1	14.8	14.0	15.9	16.0	15.2	14.0
1922	15.4	16.5	15.8	15.7	15.0	14.7	14.7	13.7	13.4	13.4	12.8	11.7	14.4
1923	11.1	10.9	10.2	9.8	8.8	7.9	7.5	7.7	8.5	8.8	8.2	9.0	9.0

Division of Crop and Livestock Estimates.

[1] Number of bushels of corn required to buy 100 pounds of live hogs, based on averages of farm prices of corn and of hogs for the month.

TABLE 492.—*Hogs: Monthly average price per 100 pounds at Chicago, 1901–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls*	*Dolls.*	*Dolls.*	*Dolls.*
1901	5.25	5.35	5.85	5.90	5.80	5.90	5.90	5.95	6.60	6.10	5.65	5.95	5.85
1902	6.20	6.10	6.35	6.95	7.00	7.35	7.65	7.15	7.55	7.00	6.30	6.20	6.85
1903	6.40	6.75	7.30	7.20	6.45	6.00	5.55	5.45	5.85	5.55	4.65	4.45	6.00
1904	4.90	5.15	5.35	5.10	4.65	5.05	5.40	5.30	5.75	5.40	4.80	4.50	5.15
1905	4.65	4.85	5.15	5.45	5.40	5.35	5.65	5.95	5.50	5.25	4.85	4.90	5.25
1906	5.40	6.00	6.30	6.55	6.45	6.55	6.65	6.25	6.25	6.40	6.20	6.25	6.25
1907	6.00	7.05	6.65	6.65	6.50	6.10	6.05	6.00	6.00	6.15	4.90	4.70	6.10
1908	4.40	4.45	6.00	5.85	5.50	5.80	6.50	6.55	6.85	5.95	5.80	5.65	5.70
1909	6.10	6.35	6.70	7.20	7.30	7.65	7.85	7.75	8.20	7.75	8.00	8.35	7.35
1910	8.55	9.05	10.55	9.90	9.55	9.45	8.75	8.35	8.90	8.50	7.60	7.65	8.90
1911	7.95	7.40	6.85	6.25	6.00	6.25	6.70	7.30	6.90	6.45	6.30	6.40	6.70
1912	6.25	6.20	7.10	7.80	7.65	7.50	7.05	8.25	8.45	8.75	7.75	7.40	7.55
1913	7.45	8.15	8.90	9.05	8.55	8.65	9.05	8.35	8.30	8.20	7.75	7.70	8.35
Av. 1909–1913	7.26	7.43	8.02	8.04	7.81	7.90	8.00	8.00	8.15	7.93	7.48	7.50	7.77
1914	8.30	8.60	8.70	8.65	8.45	8.20	8.70	9.00	8.85	7.65	7.50	7.10	8.36
1915	6.90	6.80	6.75	7.30	7.60	7.60	7.75	6.90	7.25	7.90	6.65	6.40	7.10
1916	7.20	8.20	9.65	9.75	9.85	9.70	9.80	10.30	10.70	9.80	9.60	9.95	9.60
1917	10.90	12.45	14.80	15.75	15.90	15.50	15.20	16.90	18.20	17.15	17.40	16.85	15.10
1918	16.30	16.65	17.10	17.45	17.45	16.60	17.75	19.00	19.65	17.70	17.70	17.55	17.45
1919	17.60	17.65	19.10	20.40	20.60	20.40	21.85	20.00	17.45	14.35	14.20	13.60	17.85
1920	14.97	14.55	14.94	14.79	14.28	14.68	14.84	14.74	15.88	14.17	11.83	9.55	13.91
Av. 1914–1920	11.74	12.13	13.01	13.44	13.45	13.24	13.70	13.83	14.00	12.67	12.13	11.57	12.76
1921	9.41	9.42	10.00	8.50	8.35	8.19	9.69	9.26	7.61	7.72	7.01	6.92	8.51
1922	8.02	9.90	10.43	10.31	10.48	10.33	9.70	8.01	8.75	8.80	8.07	8.18	9.22
1923	8.29	8.02	8.18	8.08	7.53	6.92	7.04	7.65	8.35	7.42	6.85	6.87	7.55

Division of Statistical and Historical Research. Figures prior to 1920 from Drovers Journal Yearbook; subsequent figures compiled from reports of packer and shipper purchases of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 493.—*Hogs: Monthly average and top price per 100 pounds, at six markets, 1923.*

CHICAGO.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average, Jan. 1 June 30.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250 pounds up)	8.21	7.96	8.15	8.03	7.46	6.94	7.79
Mediumweight (200–250 pounds)	8.36	8.14	8.32	8.26	7.67	7.06	7.97
Common to choice—							
Lightweight (150–200 pounds)	8.55	8.31	8.44	8.26	7.66	7.02	8.04
Light lights (130 to 150 pounds)	8.51	8.22	8.22	7.72	7.25	6.82	7.79
Packing sows:							
Smooth (250 pounds up)	7.54	7.18	7.49	7.14	6.67	6.16	7.03
Rough (200 pounds up)	7.23	6.87	7.24	6.85	6.24	5.85	6.71
Pigs (130 pounds down), medium to choice	8.16	7.68	7.57	7.06	6.58	6.04	7.18
Stock pigs (130 pounds down), common to choice							
Bulk of sales	8.29	8.06	8.21	8.13	7.53	6.91	7.86
Top	9.00	8.85	8.85	8.75	8.40	7.75	[1] 9.00

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average, July 1–Dec. 31.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250–350 pounds)	7.18	7.91	8.50	7.64	7.04	7.03	7.55
Mediumweight (200–250 pounds)	7.40	8.23	8.80	7.68	7.04	6.97	7.69
Common to choice—							
Lightweight (160–200 pounds)	7.32	7.98	8.53	7.41	6.76	6.74	7.46
Light lights (130–160 pounds)	7.17	7.80	8.23	6.95	6.25	6.46	7.14
Packing hogs:							
Smooth	6.26	6.61	7.62	6.86	6.59	6.60	6.76
Rough	5.92	6.22	7.21	6.59	6.32	6.38	6.44
Slaughter pigs (130 pounds down), medium to choice	6.74	7.34	7.22	6.26	5.56	5.67	6.50
Feeder and stocker pigs (70–130 pounds), common to choice							
Bulk of sales	7.11	7.70	8.30	7.39	6.86	6.86	7.37
Top	8.10	9.70	9.75	8.55	7.65	7.40	[1] 9.75

[1] Top price for six months.

TABLE 493.—*Hogs: Monthly average and top price per 100 pounds, at six markets, 1923*—Continued.

EAST ST. LOUIS.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250 pounds up)	8.39	8.04	8.30	8.08	7.61	7.05	7.91
Mediumweight (200–250 pounds)	8.54	8.25	8.40	8.26	7.69	7.14	8.05
Common to choice—							
Lightweight (150–200 pounds)	8.69	8.45	8.46	8.32	7.64	6.96	8.09
Light lights (130–150 pounds)	8.56	8.39	8.26	7.88	7.07	6.64	7.80
Packing sows:							
Smooth (250 pounds up)	7.31	6.99	7.29	6.80	6.11	5.81	6.72
Rough (200 pounds up)	7.15	6.85	7.17	6.68	5.97	5.67	6.58
Pigs (130 pounds down), medium to choice	7.69	7.45	7.04	6.72	6.34	6.19	6.90
Stock pigs (130 pounds down), common to choice	7.69	7.34	6.44	6.11	5.63	5.50	6.45
Bulk of sales	8.57	8.28	8.41	8.26	7.73	7.17	8.07
Top	9.15	8.90	8.80	8.70	8.40	7.85	[1] 9.15

Kind and grade.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250–350 pounds)	7.34	8.06	8.47	7.65	7.05	7.04	7.60
Mediumweight (200–250 pounds)	7.54	8.41	8.76	7.75	7.04	7.03	7.76
Common to choice—							
Lightweight (160–200 pounds)	7.54	8.38	8.47	7.35	6.68	6.76	7.53
Light lights (130–160 pounds)	7.21	7.94	7.99	6.94	6.35	6.42	7.14
Packing hogs:							
Smooth	5.91	6.49	7.30	6.48	6.16	6.24	6.43
Rough	5.77	6.27	7.05	6.27	5.95	6.05	6.23
Slaughter pigs (130 pounds down), medium to choice	6.85	7.35	7.50	6.55	5.95	6.12	6.72
Feeder and stocker pigs (70–130 pounds), common to choice	6.15	6.25	6.05	6.04	5.51	5.71	5.95
Bulk of sales	7.62	8.53	8.74	7.53	6.90	6.92	7.71
Top	8.40	9.80	9.85	8.55	7.55	7.60	[1] 9.85

FORT WORTH.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Butcher, bacon and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250 pounds up)	8.17	8.01	8.03	7.86	7.33	7.04	7.74
Mediumweight (200–250 pounds)	8.04	8.02	8.06	7.89	7.37	7.07	7.74
Common to choice—							
Lightweight (150–200 pounds)	7.91	7.89	7.92	7.76	7.11	6.76	7.56
Light lights (130–150 pounds)	7.71	7.65	7.54	7.32	6.84	6.58	7.27
Packing sows:							
Smooth (250 pounds up)	7.09	6.98	6.90	6.78	5.98	5.49	6.54
Rough (200 pounds up)	5.50	5.81	5.78	5.72	5.24	4.87	5.49
Pigs (130 pounds down), medium to choice	6.40	6.24	5.67	5.54	5.42	5.42	5.78
Stock pigs (130 pounds down), common to choice							
Bulk of sales	8.14	8.01	8.02	7.87	7.36	7.06	7.74
Top	8.65	8.50	8.40	8.25	7.90	7.75	[1] 8.65

Kind and grade	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Butcher, bacon and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250–350 pounds)	7.66	8.12	8.55	7.44	6.98	7.16	7.65
Medium weight (200–250 pounds)	7.76	8.24	8.63	7.53	7.04	7.20	7.73
Common to choice—							
Lightweight (160–200 pounds)	7.40	7.95	8.44	7.27	6.61	6.70	7.40
Light lights (130–160 pounds)	7.07	7.02	7.40	6.74	6.05	6.09	6.73
Packing hogs:							
Smooth	5.96	5.91	6.22	6.27	6.07	6.02	6.08
Rough	5.24	5.12	5.36	5.30	5.07	5.12	5.20
Slaughter pigs (130 pounds down), medium to choice	5.87	5.26	5.94	6.05	5.13	5.22	5.58
Feeder and stocker pigs (70–130 pounds), common to choice							
Bulk of sales	7.74	8.12	8.46	7.41	6.98	7.10	7.64
Top	8.35	9.35	9.65	8.30	7.65	7.70	[1] 9.65

[1] Top price for six months.

TABLE 493.—*Hogs: Monthly average and top price per 100 pounds, at six markets, 1923*—Continued.

KANSAS CITY.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Butcher, bacon and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250 pounds up)	8.16	7.89	8.07	7.90	7.36	6.78	7.69
Mediumweight (200–250 pounds)	8.25	8.01	8.14	7.96	7.42	6.81	7.76
Common to choice—							
Lightweight (150–200 pounds)	8.21	8.03	8.08	7.79	7.19	6.58	7.65
Light lights (130–150 pounds)	8.19	7.99	7.90	7.45	6.90	6.24	7.44
Packing sows, smooth (250 pounds up)	7.38	7.02	7.32	6.95	6.18	5.82	6.78
Rough (200 pounds up)	7.22	6.85	7.20	6.84	6.08	5.72	6.65
Pigs (130 pounds down), medium to choice							
Stock pigs (130 pounds down), common to choice	7.81	7.30	7.05	7.03	6.43	6.19	6.97
Bulk of sales	8.20	7.98	8.10	7.90	7.33	6.72	7.70
Top	8.60	8.35	8.55	8.30	7.95	7.25	[1] 8.60

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Butcher, bacon and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250–350 pounds)	7.22	7.87	8.27	7.35	6.76	6.75	7.37
Mediumweight (200–250 pounds)	7.25	7.99	8.48	7.33	6.72	6.70	7.41
Common to choice—							
Lightweight (160–200 pounds)	7.02	7.83	8.18	6.88	6.32	6.30	7.09
Light lights (130–160 pounds)	6.69	7.51	7.62	6.44	5.80	5.94	6.68
Packing hogs:							
Smooth	6.05	6.28	6.94	6.37	6.27	6.30	6.37
Rough	5.89	6.00	6.43	6.05	5.98	6.06	6.07
Slaughter pigs (130 pounds down), medium to choice							
Feeder and stocker pigs (70–130 pounds), common to choice	6.12	6.23	6.30	5.39	4.79	4.99	5.64
Bulk of sales	7.14	7.81	8.25	7.14	6.64	6.62	7.27
Top	7.60	9.25	9.40	8.05	7.30	7.20	[1] 9.40

OMAHA.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250 pounds up)	8.07	7.82	7.98	7.76	7.13	6.50	7.54
Mediumweight (200–250 pounds)	8.11	7.86	7.97	7.78	7.19	6.58	7.58
Common to choice—							
Lightweight (150–200 pounds)	8.07	7.86	7.88	7.70	7.14	6.48	7.52
Light lights (130–150 pounds)							
Packing sows:							
Smooth (250 pounds up)	7.39	7.12	7.40	6.93	6.19	5.68	6.78
Rough (200 pounds up)	7.19	6.92	7.22	6.75	6.03	5.39	6.58
Pigs (130 pounds down), medium to choice							
Stock pigs (130 pounds down), common to choice	7.49	7.03	6.62	6.35	5.51	4.97	6.33
Bulk of sales	8.06	7.83	7.96	7.75	7.14	6.41	7.52
Top	8.45	8.15	8.25	8.10	7.80	7.05	[1] 8.45

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250–350 pounds)	6.83	7.00	8.12	7.15	6.60	6.72	7.17
Mediumweight (200–250 pounds)	6.98	7.77	8.32	7.17	6.61	6.71	7.26
Common to choice—							
Lightweight (160–200 pounds)	6.79	7.57	8.10	7.00	6.50	6.45	7.07
Light lights (130–160 pounds)							
Packing hogs:							
Smooth	6.08	6.74	7.55	6.79	6.26	6.42	6.64
Rough	5.76	6.38	7.32	6.61	5.86	6.24	6.36
Slaughter pigs (130 pounds down), medium to choice							
Feeder and stocker pigs (70–130 pounds), common to choice	4.92	5.43	6.10	5.82	5.23	5.06	5.43
Bulk of sales	6.62	7.27	7.94	7.00	6.45	6.59	6.98
Top	7.60	9.10	9.35	7.85	7.15	7.15	[1] 9.35

[1] Top price for six months

TABLE 493.—*Hogs: Monthly average and top price per 100 pounds, at six markets, 1923*—Continued.

SOUTH ST. PAUL.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250 pounds up)	7.99	7.64	7.84	7.76	6.95	6.34	7.42
Mediumweight (200–250 pounds)	8.12	7.82	7.94	7.88	7.09	6.46	7.55
Common to choice—							
Lightweight (150–200 pounds)	8.24	8.00	8.03	7.94	7.20	6.64	7.68
Light lights (130–150 pounds)	8.29	8.05	7.88	7.76	7.09	6.63	7.62
Packing sows:							
Smooth (250 pounds up)	7.19	6.69	6.87	6.69	5.88	5.48	6.47
Rough (200 pounds up)	6.91	6.44	6.59	6.51	5.54	5.14	6.19
Pigs (130 pounds down), medium to choice	8.35	8.00	7.67	7.46	6.77	6.24	7.42
Stock pigs (130 pounds down), common to choice	8.37	8.01	7.76	7.66	6.89	6.16	7.48
Bulk of sales	8.13	7.84	7.93	7.86	7.05	6.34	7.52
Top	8.60	8.35	8.35	8.35	8.10	7.25	[1] 8.60

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov	Dec.	Average July 1–Dec. 31.
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dollars*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Heavyweight (250-350 pounds)	6.75	7.49	7.99	6.93	6.44	6.49	7.02
Mediumweight (200–250 pounds)	6.89	7.67	8.14	6.97	6.44	6.48	7.10
Common to choice—							
Lightweight (160–200 pounds)	7.05	7.92	8.26	6.96	6.39	6.43	7.17
Light lights (130–160 pounds)	7.01	7.79	8.13	6.80	5.98	6.22	6.99
Packing hogs:							
Smooth	5.96	6.51	7.16	6.42	6.02	6.01	6.35
Rough	5.58	6.14	6.87	6.25	5.88	5.86	6.10
Slaughter pigs (130 pounds down), medium to choice	5.94	6.26	7.24	6.21	5.22	5.74	6.10
Feeder and stocker pigs (70–130 pounds), common to choice	5.22	5.39	6.59	5.52	4.73	4.92	5.40
Bulk of sales	6.41	7.06	7.68	6.69	6.31	6.42	6.76
Top	7.60	9.15	9.10	7.75	7.00	6.75	[1] 9.15

Division of Statistical and Historical Research. Compiled from data o the reporting service of the Livestock, Meats, and Wool Division.
Classification of livestock changed July 1, 1923.

[1] Top price for six months.

TABLE 494.—*Hogs: Trend of average farm prices and average market prices per 100 pounds, at Chicago, 1910–1923.*

Calendar year.	Weighted average farm price.	Average market price at Chicago.	Price relatives 1913=100.		Calendar year.	Weighted average farm price.	Average market price at Chicago.	Price relatives 1913=100.	
			Farm price.	Market price.				Farm price.	Market price.
	Dollars.	*Dollars.*				*Dollars.*	*Dollars.*		
1910	8.12	8.90	109.1	106.6	1917	13.41	15.10	180.2	180.8
1911	6.29	6.70	84.5	80.2	1918	15.82	17.45	212.6	209.0
1912	6.64	7.55	89.2	90.4	1919	16.04	17.85	215.6	213.8
1913	7.44	8.35	100.0	100.0	1920	12.85	13.91	172.7	166.6
1914	7.51	8.30	100.9	99.4	1921	7.85	8.51	105.5	101.9
1915	6.56	7.10	88.2	85.0	1922	8.32	9.22	111.8	110.4
1916	8.11	9.60	109.0	115.0	1923	7.11	7.55	95.6	90.4

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 495.—*Hogs: Prices of live hogs in Chicago, and of wholesale and retail prices of certain pork products, 1913–1923.*

Calendar year.	Price of live hogs, Chicago. (Per 100 lbs).	Hams.				Bacon.			
		Smoked, wholesale.		Retail.[1]		Short clear sides, wholesale.		Retail.	
		Chicago, (Price per pound.)	Per cent of live hog price.	In leading cities. (Price per pound.)	Per cent of live hog price.	Chicago, (Price per pound.)	Per cent of live hog price.	In leading cities. (Price per pound.)	Per cent of live hog price.
	Dollars.	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*
1913	8.35	16.6	199	26.9	322	12.7	152	27.0	323
1914	8.30	16.7	201	27.3	329	13.2	159	27.5	331
1915	7.10	15.3	215	26.1	368	11.6	163	26.9	379
1916	9.60	18.5	193	29.4	306	14.9	155	28.7	299
1917	15.10	25.2	167	38.2	253	24.8	164	41.0	272
1918	17.45	31.8	182	47.9	274	27.9	160	52.9	303
1919	17.85	34.3	192	53.4	299	29.1	163	55.4	310
1920	13.91	33.4	240	55.5	399	20.7	149	52.3	376
1921	8.51	26.8	315	48.8	573	13.5	159	42.7	502
1922	9.22	26.5	287	48.8	529	14.1	153	39.8	432
1923	7.55	21.2	281	45.5	603	12.0	159	39.1	518
1923.									
January	8.29	20.2	244	45.1	544	13.2	159	39.8	480
February	8.02	20.3	253	45.0	561	12.7	158	39.4	491
March	8.18	20.6	252	45.0	550	13.1	160	39.2	479
April	8.08	21.2	262	45.1	558	12.3	152	39.1	484
May	7.53	21.1	280	45.3	602	11.4	151	39.1	519
June	6.92	21.1	305	45.4	656	11.3	163	39.0	564
July	7.04	21.7	308	46.0	653	11.2	159	39.1	555
August	7.65	22.3	292	46.3	605	11.0	144	39.2	512
September	8.35	22.3	267	46.6	558	11.8	141	39.4	472
October	7.42	21.9	295	46.4	625	12.0	162	39.3	531
November	6.85	20.9	305	45.5	664	12.3	180	38.5	562
December	6.87	20.5	298	44.7	651	11.5	167	37.5	546

Calendar year	Fresh pork.				Lard.			
	Pork loins, wholesale.		Pork chops, retail.		Prime contract, wholesale.		Retail.	
	Chicago, (Price per pound.)	Per cent of live hog price.	In leading cities. (Price per pound.)	Per cent of live hog price.	New York. (Price per pound.)	Per cent of live hog price.	In leading cities. (Price per pound.)	Per cent of live hog price.
	Cents.	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*	*Cents.*	*Per cent.*
1913	14.9	178	21.0	251	11.0	132	15.8	189
1914	15.4	186	22.0	265	10.4	126	15.6	188
1915	14.3	201	20.3	286	9.4	132	14.8	208
1916	16.2	169	22.7	236	13.5	141	17.5	182
1917	24.4	162	31.9	211	21.7	144	27.6	183
1918	29.5	169	39.0	223	25.5	146	33.3	191
1919	31.5	176	42.3	237	29.0	162	36.9	207
1920	30.7	221	42.3	304	20.0	144	29.5	212
1921	22.5	264	34.9	410	11.1	130	18.0	212
1922	21.7	235	33.0	358	11.5	125	17.0	184
1923	18.0	238	30.4	403	12.3	163	17.7	234
1923.								
January	15.5	187	29.3	353	11.8	142	17.4	210
February	15.6	195	28.7	358	11.8	147	17.4	217
March	14.8	181	28.3	346	12.6	154	17.4	213
April	15.3	189	28.4	351	12.0	149	17.5	217
May	19.3	256	30.0	398	11.6	154	17.3	230
June	16.0	231	29.9	432	11.7	169	17.2	249
July	19.5	277	31.2	443	11.3	161	17.1	243
August	23.0	301	32.1	420	11.6	152	17.1	224
September	27.3	327	36.7	440	12.8	153	17.9	214
October	21.0	283	34.2	461	13.3	179	18.6	251
November	15.6	228	28.9	422	14.1	206	18.9	276
December	13.3	194	26.5	386	13.2	192	18.9	275

Division of Statistical and Historical Research. Wholesale prices of ham, bacon, and pork loins in Chicago and of lard in New York. Retail prices in leading cities throughout the United States. Price of live hogs, Bureau of Agricultural Economics; other prices from Bureau of Labor Statistics.

[1] Mostly on sliced ham.

TABLE 496.—*Hogs: Monthly slaughter under Federal inspection, 1907–1923.*

Calendar year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1907	3,409,531	2,920,505	2,665,112	2,467,170	3,317,281	3,240,786	2,928,806	2,300,785	1,988,210	2,218,979	2,134,622	3,093,590	32,885,377
1908	4,961,421	3,889,864	3,111,115	2,304,271	3,087,525	3,093,889	2,415,570	2,231,182	2,230,684	3,368,060	3,802,740	4,146,780	38,643,101
1909	3,875,858	2,653,412	3,012,659	2,342,999	2,629,418	2,718,569	2,097,241	1,821,934	1,955,445	2,397,039	2,800,080	3,090,242	31,394,896
1910	2,692,780	2,323,582	1,891,000	1,778,410	2,206,472	2,612,116	1,988,403	1,824,006	1,563,846	1,850,765	2,455,654	2,836,749	26,013,783
1911	2,742,393	2,632,830	2,972,692	2,589,454	3,007,507	3,462,063	2,560,236	2,031,911	2,171,798	2,719,927	3,639,269	3,602,875	34,132,955
1912	4,146,782	3,301,955	2,700,401	2,411,926	2,843,878	2,835,470	2,353,889	1,875,336	1,701,088	2,454,931	3,020,226	3,406,795	33,052,727
1913	3,708,086	2,843,947	2,333,602	2,486,664	3,045,926	3,056,948	2,557,054	2,268,333	2,132,735	2,681,399	3,165,206	3,918,685	34,198,585
1914	3,489,384	2,722,763	2,547,752	2,311,724	2,569,085	2,925,635	2,259,540	1,799,032	1,907,397	2,681,852	3,047,127	4,270,600	32,531,841
1915	4,273,788	3,885,177	3,445,787	2,563,081	2,868,655	3,245,822	2,493,385	2,040,506	1,890,484	2,493,831	3,738,879	5,441,833	38,381,228
1916	5,387,333	4,275,567	3,430,145	2,853,326	3,274,941	3,162,569	2,530,249	2,517,259	2,287,330	3,327,029	4,770,913	5,267,042	43,083,703
1917	4,628,613	3,484,014	2,984,959	2,645,077	3,063,518	2,684,844	2,411,436	1,704,852	1,321,674	2,195,291	3,042,827	3,722,599	33,909,704
1918	3,960,892	3,998,084	3,925,986	3,290,489	3,092,325	2,782,792	2,940,491	2,283,063	1,980,008	3,018,084	4,280,126	5,661,890	41,214,250
1919	5,845,696	4,266,317	3,443,330	3,207,671	3,743,463	3,728,230	2,884,325	1,949,413	1,997,149	2,685,711	3,270,172	4,790,353	41,811,830
1920	5,078,521	3,103,530	3,481,680	2,590,208	3,584,781	3,566,071	2,643,772	2,190,821	1,978,602	2,486,940	3,328,633	3,985,125	38,018,684
1921	4,347,306	3,798,687	3,047,424	3,008,290	3,274,114	3,618,152	2,820,616	2,530,459	2,422,350	2,866,133	3,447,027	3,806,797	38,982,355
1922	3,984,704	3,479,907	3,350,214	2,945,757	3,716,170	4,046,304	3,104,322	2,887,755	2,747,467	3,331,587	4,318,005	5,201,437	43,113,629
1923	5,134,029	4,230,575	4,837,791	4,179,438	4,325,130	4,302,533	3,983,435	3,556,039	3,212,350	4,327,951	5,340,678	5,903,759	53,333,708

Bureau of Animal Industry.

TABLE 497.—*Pork: Cold storage holdings in United States, 1916–1923.*

Year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1916	420,736	556,369	660,263	646,097	617,668	615,386	643,959	641,667	590,013	490,762	352,006	426,392
1917	559,041	642,755	701,258	662,323	675,782	694,521	729,185	732,258	696,907	435,238	328,883	379,293
1918	563,600	725,085	876,378	967,040	995,786	1,009,882	992,871	944,365	720,374	579,991	517,310	560,728
1919	722,556	968,715	999,756	1,004,109	998,268	987,853	959,387	882,448	770,504	691,915	568,921	513,982
1920	597,638	776,763	903,350	968,639	966,706	959,338	962,454	933,028	807,011	616,441	472,708	426,677
1921	533,980	669,832	837,158	842,906	802,190	801,387	799,261	727,569	623,967	471,901	359,656	355,589
1922	415,096	484,898	547,450	591,223	594,241	635,655	707,385	683,451	619,671	483,096	395,171	419,498
1923	570,510	688,924	783,680	864,674	940,071	908,771	908,505	866,159	764,262	613,143	505,946	577,496

Division of Statistical and Historical Research.

PORK PRODUCTS.

TABLE 498.—*Monthly statement of the livestock and meat situation, 1923.*

HOGS, PORK, AND PORK PRODUCTS.

Item.	Unit.	Jan.	Feb.	Mar.	Apr.	May.	June.
Inspected slaughter hogs	Thousands	5,134	4,231	4,838	4,179	4,325	4,303
Average live weight	Pounds	227	228	228	229	224	228
Average dressed weight	do	177	178	177	176	171	175
Total dressed weight (carcass)	1,000 pounds	907,645	752,492	856,386	737,545	739,251	751,610
Lard per 100 pounds live weight	Pounds	16	17	18	17	17	18
Storage, 1st of month:							
Fresh pork	1,000 pounds	72,278	120,196	154,377	189,115	213,224	210,645
Cured pork	do	498,232	568,728	629,303	675,559	726,847	698,126
Lard	do	48,808	56,266	59,101	66,743	85,251	84,530
Exports:[1]							
Fresh pork	do	6,612	3,772	3,123	4,178	2,601	3,093
Cured pork	do	78,240	68,351	69,766	71,291	67,051	62,450
Canned pork	do	131	87	167	218	547	449
Sausage	do	879	603	1,084	1,002	884	941
Lard	do	111,157	91,536	112,141	88,601	95,343	65,788
Imports: Fresh pork	do	106	43	171	141	108	71
Receipts of hogs[2]	Thousands	5,306	4,492	4,927	4,318	4,524	4,204
Stocker and feeder shipments[2]	do	66	64	69	76	67	63
Prices per 100 pounds:							
Average cost for slaughter	Dollars	8.35	8.22	8.17	8.04	7.44	6.83
At Chicago—Live hogs, medium weight	do	8.36	8.14	8.32	8.26	7.67	7.06
At eastern markets—							
Fresh pork loins, 10–14 pounds	do	15.38	14.88	14.49	14.46	16.88	14.78
Shoulders, skinned	do	13.28	13.08	12.26	11.78	11.44	10.43
Picnics, 6–8 pounds	do	11.32	11.72	10.18	10.00	10.34	8.82
Butts, Boston style	do	15.15	15.16	14.14	13.40	12.50	11.80
Bacon, breakfast	do	26.93	26.17	24.04	23.50	23.40	22.85
Hams, smoked, 10–12 pounds	do	20.85	20.63	20.52	21.07	21.62	21.88
Lard, tierces	do	12.56	12.62	12.85	12.67	12.45	12.16
Hogs on farms, Jan. 1	Thousands	68,227					

Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Inspected slaughter hogs	Thousands	3,983	3,556	3,212	4,328	5,341	5,904	53,334
Average live weight	Pounds	232	236	229	219	216	218	[3] 225
Average dressed weight	do	177	181	173	165	164	166	[3] 173
Total dressed weight (carcass)	1,000 pounds	705,586	644,603	555,094	714,848	876,726	979,788	9,221,574
Lard per 100 pounds live weight	Pounds	17	17	16	14	15	16	[3] 16
Storage, 1st of month:								
Fresh pork	1,000 pounds	217,074	195,002	148,753	98,795	71,640	82,068	[4] 147,764
Cured pork	do	691,431	671,157	605,509	514,348	434,306	495,428	[4] 600,748
Lard	do	123,896	143,579	115,860	72,608	35,225	35,317	[4] 77,265
Exports:[1]								
Fresh pork	do	3,492	4,183	3,215	3,728	7,946	8,748	54,691
Cured pork	do	67,640	73,504	82,069	76,069	74,712	78,988	870,731
Canned pork	do	242	178	153	153	230	246	2,801
Sausage	do	1,268	874	766	777	715	942	10,735
Lard	do	70,290	85,082	85,194	77,646	76,020	100,712	1,059,510

[1] Including reexports. [2] Public stockyards. [3] Weighted average. [4] Simple average, not total.

PORK PRODUCTS—Continued.

TABLE 498.—*Monthly statement of the livestock and meat situation, 1923*—Contd.

HOGS, PORK, AND PORK PRODUCTS—Continued.

Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Imports: Fresh pork	1,000 pounds	47	37	89	152	66	40	1,101
Receipts of hogs[1]	Thousands	4,131	3,714	3,607	4,846	5,416	5,826	55,330
Stocker and feeder shipments[1]	do	24	62	102	161	70	46	830
Prices per 100 pounds:								
Average cost for slaughter	Dollars	8.91	7.78	8.49	7.38	6.83	6.82	[2] 7.59
At Chicago—Live hogs, medium weight	do	7.40	8.23	8.80	7.68	7.04	6.97	[2] 7.83
At eastern markets—								
Fresh pork loins, 10–14 pounds	do	17.20	18.69	24.77	20.10	13.96	13.76	[2] 16.61
Shoulders, skinned	do	10.64	11.32	12.99	13.10	11.20	10.30	[2] 11.82
Picnics, 6–8 pounds	do	[4] 10.10	9.68	11.17	10.69	10.13	9.42	[2] 10.30
Butts, Boston style	do	12.38	12.62	15.78	15.96	12.64	11.44	[2] 13.58
Bacon, breakfast	do	22.91	23.13	23.38	22.33	21.88	20.79	[2] 23.44
Hams, smoked, 10–12 pounds	do	22.17	22.30	22.83	22.33	21.50	20.67	[2] 21.53
Lard, tierces	do	12.08	12.47	13.86	14.39	14.53	14.56	[2] 13.10
Hogs on farms, Jan. 1	Thousands							

Division of Statistical and Historical Research. Inspected slaughter from reports of the Bureau of Animal Industry. Weights and storage holdings from reports of the Division of Statistical and Historical Research. Exports and imports from the Bureau of Foreign and Domestic Commerce. Receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats and Wool Division and number on farms from Division of Crop and Livestock Estimates, Bureau of Agricultural Economics.

[1] Public stockyards. [2] Weighted average. [3] Simple average, not total. [4] Boston only reported.

TABLE 499.—*Lard: Cold storage holdings in United States, 1916–1923.*

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1916	63,364	92,342	111,897	97,237	108,731	85,113	87,127	95,991	82,028	71,570	56,929	58,950
1917	80,977	86,208	88,400	85,179	61,640	72,365	95,197	112,249	102,172	69,929	37,095	44,367
1918	54,539	59,319	65,355	89,854	102,373	106,194	107,871	102,411	104,668	90,398	76,124	81,676
1919	104,274	138,353	125,410	112,469	112,409	83,096	92,132	100,478	87,947	76,456	66,036	49,147
1920	62,614	97,649	111,975	132,993	141,319	152,307	193,316	191,531	170,774	109,256	47,329	36,683
1921	59,319	83,549	117,690	128,614	152,428	181,992	204,301	194,490	149,886	85,115	48,850	42,001
1922	47,541	61,202	61,297	86,031	96,055	123,798	154,254	143,084	119,755	75,338	36,759	32,506
1923	48,808	56,266	59,101	66,743	85,251	84,530	123,896	143,579	115,860	72,608	35,225	35,317

Division of Statistical and Historical Research.

TABLE 500.—*Pork: Exports from the United States, by months, 1910–1924.*

Year ending June 30.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	65,364	68,289	60,183	55,362	62,726	65,638	75,401	66,675	60,599	34,227	42,229	50,415	707,108
1910–11	60,183	67,351	56,685	49,280	50,136	71,512	75,067	79,351	85,076	87,486	100,768	96,562	879,457
1911–12	82,514	82,367	107,052	79,551	77,114	97,067	93,601	102,591	104,742	85,895	92,609	65,809	1,071,053
1912–13	72,295	77,195	77,964	64,987	65,096	79,411	91,808	106,956	96,771	82,836	83,993	76,476	976,498
1913–14	81,962	82,726	73,628	77,309	79,717	86,897	101,683	73,958	70,048	60,762	66,967	67,496	921,912
1914–15	53,066	54,215	59,388	73,414	73,756	73,691	106,325	118,657	169,112	113,501	89,263	121,772	1,166,180
1915–16	95,929	90,126	100,997	113,464	107,744	143,262	133,222	162,376	119,963	133,534	148,245	112,361	1,459,535
1916–17	76,567	93,101	106,329	95,287	113,579	150,723	199,397	122,571	167,861	137,772	127,193	163,093	1,499,473
1917–18	45,802	71,295	79,460	64,037	99,189	90,333	92,864	114,347	208,611	285,763	281,335	169,305	1,601,441
1918–19	252,767	170,647	114,555	132,287	123,266	205,601	197,965	236,421	341,295	348,040	180,690	409,393	2,704,977
1919–20	240,961	179,568	117,762	117,943	131,683	144,709	137,438	147,133	185,349	87,591	134,208	137,330	1,761,679
1920–21	94,117	67,783	102,479	133,102	132,696	187,691	161,695	151,361	143,085	118,192	111,040	128,941	1,521,493
1921–22	171,555	174,916	173,988	99,186	90,240	106,449	127,613	138,047	124,411	90,125	99,440	119,855	1,515,826
1922–23	133,426	127,697	120,134	125,716	124,574	155,944	196,139	168,745	185,197	164,288	165,543	131,780	1,794,143
1923–24	141,965	162,998	178,631	188,796	188,998	188,697							

Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.

These figures include exports of fresh, canned, and pickled pork, cured hams and shoulders, bacon, lard, and neutral lard.

TABLE 501.—*Bacon: Exports from the United States, by months, 1910–1924.*

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	18,112	15,061	15,535	13,422	16,585	14,978	16,343	11,474	10,755	6,342	5,398	8,028	152,163
1910–11	10,894	13,749	12,642	9,437	8,646	14,435	12,679	10,752	11,038	16,091	17,006	19,110	156,675
1911–12	17,906	18,857	25,038	16,368	15,864	18,104	18,153	16,954	17,468	17,934	16,270	10,559	208,574
1912–13	16,516	18,668	15,366	13,681	13,879	14,567	19,819	20,325	20,880	17,051	14,423	13,812	200,994
1913–14	16,555	19,561	16,358	17,068	16,688	19,367	20,814	17,518	13,618	12,603	11,618	11,306	193,964
1914–15	10,905	14,405	17,596	13,398	18,825	21,221	27,156	37,177	66,839	41,692	33,598	43,477	346,718
1915–16	38,508	37,579	42,371	53,410	45,876	55,472	50,057	53,510	41,892	53,443	58,348	38,022	579,809
1916–17	30,974	43,954	49,222	41,284	48,785	78,932	91,812	51,993	67,502	57,310	60,676	50,606	667,151
1917–18	19,462	26,311	25,501	29,363	43,571	42,021	53,851	50,904	155,604	127,409	142,012	87,294	815,294
1918–19	119,894	68,858	41,549	58,132	73,862	126,437	102,679	114,840	151,086	141,814	67,664	172,441	1,238,247
1919–20	117,679	84,151	57,209	56,462	65,288	58,983	77,501	75,891	75,002	24,356	50,413	60,731	803,667
1920–21	31,523	23,333	41,372	49,339	57,931	68,784	43,202	31,537	35,349	32,852	38,464	35,012	489,298
1921–22	48,172	45,340	44,719	23,001	15,642	21,366	26,108	30,794	31,180	20,490	19,079	24,067	350,549
1922–23	32,584	32,591	30,448	28,850	26,170	39,486	43,352	36,206	40,549	34,790	34,525	28,641	408,282
1923–24	27,581	23,004	45,161	46,689	39,027	47,131							

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

TABLE 502.—*Lard: Exports from the United States, by months, 1910–1924.*

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	28,639	33,906	26,203	27,287	27,529	34,619	39,686	38,878	32,574	17,213	20,418	29,976	362,928
1910–11	31,658	34,171	26,987	24,625	27,856	38,790	40,668	47,595	55,043	43,726	54,685	45,284	476,108
1911–12	35,446	34,912	52,670	43,003	40,829	52,548	45,465	54,143	54,797	40,179	44,900	32,364	532,256
1912–13	32,536	33,142	43,272	36,746	40,157	45,591	44,281	61,211	49,226	42,114	43,787	41,961	519,025
1913–14	39,567	41,025	37,383	39,466	42,661	48,497	56,432	35,916	38,001	29,890	35,101	37,519	481,458
1914–15	24,987	25,292	28,538	48,241	42,053	36,046	55,520	56,133	67,259	38,336	22,298	30,834	475,532
1915–16	21,555	25,146	28,774	28,256	30,776	46,404	34,040	41,262	37,148	39,017	48,773	45,862	427,011
1916–17	26,088	22,891	32,707	21,242	31,479	46,162	65,091	39,558	59,081	45,602	30,621	24,257	444,770
1917–18	9,364	23,553	22,145	9,639	20,742	13,069	20,706	31,683	68,721	53,885	79,751	29,248	392,506
1918–19	68,000	51,921	33,268	46,025	27,285	37,724	37,850	68,973	97,239	86,556	55,091	114,329	724,771
1919–20	68,192	49,033	36,960	41,017	42,106	63,646	38,624	36,645	69,430	40,758	55,544	45,070	587,225
1920–21	47,061	31,021	46,326	54,174	57,316	90,060	76,185	91,841	82,617	53,276	48,604	67,656	746,157
1921–22	83,329	87,411	104,741	86,886	51,854	64,542	73,194	75,520	64,377	42,459	50,617	57,249	812,379
1922–23	66,058	68,907	61,120	66,333	62,321	78,596	107,786	89,055	109,187	85,475	93,199	64,605	952,642
1923–24	69,478	83,758	83,630	76,378	74,251	98,578							

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

TABLE 503.—*Pork, fresh: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	France.	United Kingdom.	Other Europe.	Total Europe.	Bermuda.	Canada.	Panama.	Mexico.	Philippine Islands.	Cuba.	Other countries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	----------	395	----------	395	26	78	231	1	51	235	23	1,040
1910–11	----------	75	44	119	31	207	440	(1)	48	89	421	1,355
1911–12	----------	968	----------	968	15	891	565	(1)	76	82	1	2,508
1912–13	----------	758	----------	758	50	980	685	4	257	99	25	2,438
1913–14	----------	1,354	10	1,364	13	232	657	1	153	151	67	2,668
1914–15	224	2,833	22	3,178	72	46	370	4	77	137	24	3,908
1915–16	2,270	26,403	165	28,838	103	32,962	380	7	22	338	356	63,006
1916–17	920	23,787	----------	24,707	115	24,853	396	8	60	178	137	50,436
1917–18	642	8,235	522	9,399	9	11,396	44	4	43	372	123	21,390
1918–19	36	2,036	707	2,781	26	16,328	41	10	----------	379	79	19,644
1919–20	59	3,146	10,551	13,756	37	7,158	171	14	23	373	5,594	27,225
1920–21	268	15,099	18,130	33,497	36	17,058	394	69	44	653	5,304	57,075
1921–22	----------	4,697	6,162	10,859	48	12,281	353	98	60	2,147	70	25,911
1922–23	1	32,995	3,056	36,052	33	14,588	360	82	157	2,204	106	43,772

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 504.—*Pork, pickled: Exports from the United States by countries, 1910–1923.*

Year ending June 30.	Belgium.	Norway.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Panama.	Newfoundland and Labrador.	Haiti.	Cuba.	Other countries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	139	703	8,679	1,424	10,945	8,065	1,424	4,445	1,257	5,830	8,046	40,032
1910–11	159	787	8,754	2,397	12,097	9,084	1,233	5,001	1,360	7,383	9,571	45,729
1911–12	348	278	13,501	1,466	15,593	11,157	1,420	6,571	2,335	9,989	9,256	56,321
1912–13	458	261	14,620	1,881	17,220	9,437	1,438	5,673	2,626	9,141	8,214	53,749
1913–14	166	355	5,572	1,408	7,501	12,826	1,620	7,912	1,513	4,091	10,080	45,543
1914–15	-------	174	6,534	11,466	18,174	8,500	1,304	5,244	636	3,875	7,923	45,656
1915–16	1,014	825	13,124	5,445	20,408	17,835	1,116	7,070	949	7,847	8,236	63,461
1916–17	163	325	6,059	878	7,425	16,929	618	6,262	772	7,700	7,287	46,993
1917–18	-------	(1)	1,908	474	2,377	13,689	277	3,221	481	8,935	4,242	33,222
1918–19	1,209	956	2,961	1,515	6,661	8,189	105	5,706	625	6,694	3,524	31,504
1919–20	554	2,753	3,142	4,243	10,692	14,500	229	5,560	790	5,775	4,097	41,643
1920–21	698	336	2,908	3,039	6,981	13,644	212	4,147	929	2,458	4,915	33,286
1921–22	628	1,258	4,914	3,071	9,871	10,857	248	4,756	1,223	1,319	5,236	33,510
1922–23	328	1,568	5,853	5,378	13,127	13,349	329	5,266	1,270	1,379	6,214	40,934

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 505.—*Pork, canned: Exports from the United States by countries, 1910–1923.*

Year ending June 30.	France.	Italy.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Panama.	Mexico.	Cuba.	Argentina.	Other countries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	120	5	3,156	258	3,539	9	29	23	14	122	326	4,062
1910–11	51	14	3,109	202	3,376	1	37	65	16	103	413	4,011
1911–12	104	5	4,905	230	5,244	5	32	57	91	163	248	5,840
1912–13	33	2	3,211	229	3,475	85	63	54	27	214	230	4,148
1913–14	28	1	2,369	184	2,582	10	19	25	92	233	113	3,074
1914–15	257	4	3,757	61	4,079	45	27	11	77	80	325	4,644
1915–16	645	3	7,843	324	8,815	28	3	18	123	128	496	9,611
1916–17	1,103	259	3,355	109	4,826	393	4	74	51	52	496	5,896
1917–18	2,423	139	2,044	(1)	4,606	132	10	31	73	53	289	5,194
1918–19	950	389	2,244	1,040	4,623	245	4	67	13	33	288	5,273
1919–20	159	179	2,318	161	2,817	51	1	31	79	30	253	3,262
1920–21	-------	-------	829	54	883	61	-------	45	33	24	73	1,119
1921–22	9	-------	1,924	15	1,948	77	1	39	33	61	104	2,263
1922–23	6	-------	2,383	16	2,405	142	10	29	26	24	125	2,761

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 506.—*Bacon: Exports from the United States, by countries, 1909–1923.*

Year ending June 30.	Belgium.	France.	Italy.	Netherlands.	Norway.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Cuba.	[illegible] tries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	2,200	23	1,605	1,065	330	133,995	956	140,180	1,838	7,046	3,099	152,163
1910–11	3,547	1,711	6,529	4,351	3,784	116,405	9,750	146,077	1,601	6,224	2,683	156,675
1911–12	4,503	9,418	8,156	7,271	4,560	147,449	15,598	196,955	3,342	4,823	3,454	208,574
1912–13	9,141	2,097	11,781	7,639	4,054	138,133	11,426	184,271	6,868	6,658	3,197	200,994
1913–14	5,116	197	9,732	1,718	5,459	132,820	11,881	166,917	11,083	13,734	2,230	193,964
1914–15	5,737	44,712	1,629	8,285	11,518	201,043	48,896	321,820	10,025	13,360	1,513	346,718
1915–16	60,161	52,501	10,532	12,846	22,387	339,341	26,611	524,379	39,591	13,543	2,296	579,809
1916–17	65,220	77,036	19,378	10,625	8,296	346,758	3,952	531,265	118,710	14,915	2,262	667,152
1917–18	68,670	73,532	74,460	-------	25	533,135	1,057	750,879	42,837	20,294	1,284	815,294
1918–19	109,591	220,391	80,552	22,477	18,182	657,048	93,680	1,201,871	26,186	9,154	1,036	1,238,247
1919–20	37,654	27,997	13,398	122,984	12,869	411,285	134,116	760,303	21,699	19,567	2,158	803,667
1920–21	29,448	5,369	14,991	43,421	6,681	244,716	104,212	449,538	12,718	25,302	1,740	489,298
1921–22	16,743	9,363	2,481	20,847	9,147	184,703	69,993	313,277	11,022	23,462	2,788	350,549
1922–23	23,215	7,758	9,239	30,972	12,269	188,274	99,009	370,756	9,925	24,830	2,771	408,282

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 507.—*Hams and shoulders: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	Belgium.	France.	Netherlands.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Cuba.	Mexico.	Panama.	Other countries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	5,305	8	109	130,308	364	136,089	2,557	2,879	903	940	3,517	146,885
1910–11	9,092	26	226	135,433	720	145,497	2,918	3,876	640	1,103	3,675	157,709
1911–12	15,015	258	256	169,675	1,295	186,502	6,282	5,085	938	1,088	4,149	204,044
1912–13	5,822	316	131	134,017	560	140,846	6,785	6,002	782	1,029	4,101	159,545
1913–14	4,081	122	95	146,007	412	150,717	4,007	5,638	350	761	4,409	165,882
1914–15	6,596	609	1,689	179,377	2,839	191,110	1,515	6,842	249	623	3,362	203,701
1915–16	2,793	7,898	570	251,026	591	262,878	2,674	11,493	463	976	3,725	282,209
1916–17	-------	25,864	1	217,435	2,628	245,328	5,617	9,868	821	630	4,393	266,657
1917–18	-------	18,436	-------	372,723	842	392,001	14,287	9,990	465	221	2,608	419,572
1918–19	32,583	112,813	4,020	415,620	83,703	648,739	6,974	7,641	951	181	2,754	667,240
1919–20	6,489	29,870	6,112	182,563	25,146	250,180	5,669	14,185	833	332	4,257	275,456
1920–21	6,891	1,473	1,832	134,038	1,602	145,896	8,441	12,489	1,055	434	3,697	172,012
1921–22	9,690	894	196	233,566	2,438	246,784	10,664	9,071	890	473	3,760	271,642
1922–23	13,079	2,142	937	259,430	4,182	280,670	19,536	12,784	1,028	631	4,538	319,187

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, December 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 508.—*Lard: Exports from the United States, by countries, 1910–1923.*

Year ending June 30.	Belgium.	Denmark.	Germany.	Italy.	Netherlands.	United Kingdom.	Other Europe.	Total Europe.	Canada.	Cuba.	Other countries.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	9,060	4,503	93,393	2,263	23,758	161,331	3,742	298,050	9,310	33,239	22,329	362,928
1910–11	19,900	1,496	151,620	5,781	33,221	165,412	25,083	402,513	6,556	34,000	32,070	476,108
1911–12	21,744	3,130	159,474	3,171	38,675	186,125	32,764	445,083	7,968	42,549	36,656	532,256
1912–13	18,762	1,812	100,862	6,109	43,384	168,380	21,178	420,484	11,080	46,526	40,935	519,025
1913–14	15,915	1,464	140,209	5,959	43,470	164,633	8,007	385,717	15,996	40,010	36,135	481,458
1914–15	5,129	72,057	3,878	4,123	22,245	189,350	98,640	395,422	7,722	45,349	27,039	475,532
1915–16	70,132	2,874	-------	3,488	13,282	192,076	48,903	330,755	6,330	53,812	36,114	427,011
1916–17	96,761	841	-------	4,982	20,446	178,111	57,559	358,700	5,376	48,733	31,961	444,770
1917–18	116,154	75	-------	2,137	-------	159,959	46,471	324,796	894	52,574	14,242	392,506
1918–19	190,770	22,256	9,579	1	17,683	286,451	145,016	671,756	3,505	25,572	23,878	724,771
1919–20	55,970	13,528	49,733	16,502	78,354	165,374	100,058	479,519	11,018	68,734	27,354	587,225
1920–21	57,963	9,527	231,528	14,172	113,868	169,464	36,415	632,937	12,226	59,939	41,055	746,157
1921–22	43,591	6,923	200,716	9,051	42,831	244,465	59,300	666,877	8,852	73,926	62,724	812,379
1922–23	50,472	5,700	328,112	29,571	47,802	241,144	53,396	756,197	14,218	87,898	94,329	952,642

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922 and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 509.—*Pork, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909–1922.*

Calendar year.	Imports.					Exports.						
	Belgium.	France.	Germany.	Switzerland.	United Kingdom.	Denmark.	Netherlands.	Russia.	Sweden.	United States.	Canada.	Argentina.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909	[1] 1,815	105	22,551	5,168	47,986	3,352	66,686	6,557	-------	2,417	-------	-------
1910	[1] 1,023	[1] 6,670	8,117	3,907	53,750	1,203	52,070	7,067	-------	907	-------	-------
1911	[1] 3,477	14,601	2,687	[1] 388	50,728	2,198	64,415	5,988	-------	2,232	464	-------
1912	[1] 2,294	9,497	28,880	22,082	35,027	12,486	53,103	9,091	14,124	2,608	[2] 229	-------
1913	[1] 1,897	1,716	35,695	12,489	55,358	2,547	70,010	8,276	4,776	2,924	497	-------
1914	-------	903	-------	7,461	96,455	[1] 1,972	109,854	5,869	7,600	[2] 17,701	16,981	736
1915	-------	[1] 14	-------	3	30,162	32,728	97,827	4,453	18,263	20,732	6,134	1,969
1916	-------	2,079	-------	[1] 138	32,847	29,919	34,693	1,011	20,418	54,157	[2] 44,629	2,965
1917	-------	9,128	-------	[1] 102	18,015	15,963	[1] 6,469	-------	6,542	46,792	[2] 30,156	1,684
1918	-------	7,136	-------	46	11,150	79	1	-------	[2] 11	9,911	34,218	2,269
1919	63	6,449	-------	60	15,220	622	8,583	-------	[2] 15	23,908	[2] 42,558	9,915
1920	261	6,407	14,441	4,759	52,705	4,580	3,238	-------	2,345	36,764	[2] 10,401	27,485
1921	[1] 825	4,701	25,618	6,159	65,779	[1] 3,694	39,344	-------	6,416	55,267	[2] 32,610	25,761
1922	10,769	25,880	13,779	[1] 1,050	74,408	-------	62,348	-------	-------	26,156	[2] 33,973	17,293

Division of Statistical and Historical Research. Compiled from official sources.

[1] Net exports. [2] Net imports.

TABLE 510.—*Bacon, hams, and shoulders: Net imports and net exports of principal countries, 1909–1922.*

Calendar year.	Imports					Exports						
	France.	Germany.	Switzerland.	United Kingdom.	Cuba.	Denmark.	Netherlands.	Russia.	Sweden.	United States.	Canada.	Australia.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909	4, 559	514	1, 080	631, 546	4, 632	205, 293	3, 469	6, 743	2, 242	408, 317	47, 384	151
1910	2, 687	[1] 368	1, 063	499, 925	3, 678	207, 867	5, 789	15, 415	3, 759	259, 451	45, 423	1, 400
1911	16, 158	[1] 959	1, 345	637, 225	4, 379	245, 864	7, 165	16, 764	5, 807	387. 727	60, 178	2, 137
1912	19, 399	4. 427	1, 378	694, 235	4, 909	263, 450	[1] 1, 293	19, 663	7, 792	368, 098	39, 555	1, 879
1913	10, 467	1, 959	1, 078	625, 675	5, 299	272, 144	21, 924	23, 004	6, 897	384, 213	18, 249	1, 720
1914	10, 897	-------	547	653, 360	4, 375	314, 666	43, 455	13, 413	20, 723	343, 783	59, 647	1, 112
1915	66, 037	-------	202	885, 266	5, 188	246, 804	31, 280	883	17, 247	788, 584	138, 719	131
1916	77, 706	-------	723	997, 645	5, 877	195, 154	59, 779	-------	6, 970	879, 796	187, 637	915
1917	105, 038	-------	175	803. 148	4, 541	157, 047	27, 844	-------	[2] 10, 638	621, 274	211, 684	5, 663
1918	112, 243	-------	34	[1] 336, 274	4, 870	5, 489	128	-------	[2] 1, 645	[1] 640, 138	120, 560	5, 594
1919	306, 476	-------	749	1,010,482	9, 033	554	[2] 52, 053	-------	[2] 55, 840	[1] 784, 447	244, 004	3, 026
1920	61, 248	188, 102	789	631, 907	23, 458	87, 988	[2] 28, 417	-------	[2] 15, 438	821, 168	99, 288	3, 099
1921	16, 402	68, 250	680	699, 256	-------	186, 654	10, 406	-------	15, 251	647, 680	93, 861	2, 687
1922	7, 769	57, 878	425	815, 349	-------	[2] 240, 583	6, 133	-------	(4)	631, 452	94, 597	-------

Division of Statistical and Historical Research. Compiled from official sources.

[1] Net exports. [2] Net imports. [3] Includes all pork meat. [4] Pork not separated.

TABLE 511.—*Lard: Net imports and net exports of principal countries, 1909–1922.*

Calendar year.	Imports.							Exports.				
	Belgium.	Germany.	France.	Sweden.	Switzerland.	United Kingdom.	Cuba.	Denmark.	Netherlands.	United States.	Brazil.	Australia.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909	6, 944	206, 606	[1] 9, 183	3, 583	3, 164	196, 570	57, 549	[2] 10, 500	[2] 14, 421	458, 261	[2] 1, 250	1, 259
1910	4, 142	123, 639	[1] 16, 821	1, 616	2, 418	162, 051	60, 708	4, 704	2, 579	368, 832	[2] 127	2, 906
1911	10, 974	212, 723	17, 116	2, 065	4, 591	202, 992	59, 485	6, 217	[2] 25, 910	552, 430	[2] 127	3, 612
1912	7, 871	233, 810	15, 220	1, 542	4, 416	199, 450	63, 745	8, 489	[2] 31. 395	495, 093	[2] 674	1, 296
1913	7, 255	236, 708	1, 894	1, 486	3, 651	223, 908	67, 984	8, 843	[2] 11, 641	530, 180	[2] 897	3, 395
1914	-------	-------	5, 848	825	2, 925	196, 567	64, 631	15, 441	3, 208	438, 016	[2] 453	1, 219
1915	-------	-------	17, 719	2, 811	8, 497	244, 390	69, 796	3, 578	[2] 35, 912	451, 280	[2] 180	[2] 3, 531
1916	-------	-------	29, 371	1, 751	5, 819	215, 026	68, 289	13, 816	[2] 29, 665	426, 660	[2] 172	1, 273
1917	-------	-------	43, 537	79	8, 732	162, 072	55, 615	4, 677	329	372, 721	22, 502	1, 458
1918	-------	-------	42, 345	74	14, 325	307, 181	62, 419	[2] 44	7	548, 818	29, 254	5, 987
1919	[1] 25, 501	-------	90, 751	22, 119	27, 131	229, 139	55, 184	[2] 5, 032	[2] 3, 995	700, 902	44, 140	7, 909
1920	[1] 4, 283	272, 916	74, 155	6, 125	14, 178	155, 234	76, 645	597	8, 105	612, 250	24, 597	3, 075
1921	28, 665	192, 078	56, 544	5, 929	18, 078	250, 454	-------	3, 446	16, 919	868, 942	11, 458	2, 793
1922	27, 378	143, 729	47, 894	7, 580	12, 608	250, 014	-------	1, 656	24, 520	766, 950	4, 334	-------

Division of Statistical and Historical Research. Compiled from official sources.

[1] Net exports. [2] Net imports.

TABLE 512.—*Pork, carcass: Average prices per pound in Great Britain, 1909–1923.*

FIRST QUALITY FRESH BRITISH PORK.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	12. 8	12. 8	12. 9	13. 0	12. 7	12. 9	13. 2	13. 2	13. 5	14. 2	14. 8	15. 2	13. 5
1910	15. 1	15. 0	15. 0	14. 8	14. 7	14. 1	13. 9	14. 6	15. 0	15. 4	15. 3	14. 9	14. 8
1911	14. 5	14. 2	14. 2	14. 0	13. 2	14. 6	12. 2	12. 3	12. 7	13. 2	12. 8	12. 5	13. 2
1912	12. 7	12. 7	12. 8	12. 8	12. 5	12. 6	12. 8	13. 0	14. 4	15. 1	15. 1	15. 7	13. 5
1913	16. 1	16. 3	16. 3	16. 1	15. 8	15. 5	15. 5	15. 6	16. 0	16. 4	16. 7	17. 1	16. 1
Av. 1909–1913	14. 2	14. 2	14. 2	14. 1	13. 8	13. 9	13. 5	13. 7	14. 3	14. 9	14. 9	15. 1	14 2
1914	16. 8	16. 2	16. 2	15. 8	14. 5	13. 9	13. 3	14. 5	15. 1	16. 5	16. 4	16. 3	15. 5
1915	15. 8	15. 9	16. 4	17. 2	17. 9	16. 8	16. 7	16. 9	18. 8	20. 0	21. 4	21. 4	17. 9
1916	20. 1	21. 6	21. 6	23. 0	21. 9	21. 7	21. 7	21. 7	23. 8	25. 4	25. 0	26. 1	22. 8
1917	26. 9	27. 2	27. 7	28. 2	26. 4	27. 2	28. 6	25. 5	29. 1	28. 2	28. 2	28. 2	27. 6
1918	28. 2	28. 2	28. 2	31. 8	31. 8	31. 7	31. 7	31. 8	31. 8	34. 2	35. 7	35. 7	31. 7
1919	32. 1	31. 8	31. 2	31. 0	31. 1	30. 8	29. 5	28. 5	27. 9	27. 8	27. 2	26. 3	29. 6
1920	26. 8	[1] 31. 0	[1] 36. 0	41. 0	37. 2	36. 1	37. 6	35. 4	36. 3	36. 4	34. 9	34. 2	35 2
Av. 1914–1920	23. 8	24. 6	25. 3	26. 9	25. 7	25. 5	25. 6	24. 9	26. 1	26. 9	27. 0	26. 9	25. 8
1921	32. 5	29. 7	29. 7	30. 5	29. 0	24. 9	22. 9	23. 5	24. 5	22. 8	22. 5	23. 2	26. 3
1922	22. 5	23. 9	24. 4	25. 3	25. 0	23. 0	23. 9	24. 7	26. 6	27. 3	28. 5	30. 3	24. 5
1923	29. 6	28. 0	27. 0	26. 8	30. 7	24. 5	20. 7	20. 4	22. 4	23. 0	22. 3	21. 5	24. 7

[1] Interpolated.

TABLE 512.—*Pork, carcass: Average prices per pound in Great Britain, 1909–1923*—Continued.

FIRST QUALITY FROZEN PORK.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	12.7	11.7	11.9	12.0	11.9	12.1	12.6	12.7	13.5	14.5	14.7	13.4	12.8
1910	14.5	14.0	14.9	15.2	14.7	14.2	14.2	14.3	14.7	14.9	14.5	14.2	14.6
1911	13.7	13.2	14.0	13.6	12.5	11.4	11.2	11.3	12.4	11.9	11.9	12.1	12.4
1912	11.7	12.2	12.5	13.2	12.9	13.2	13.4	13.0	15.4	14.7	14.9	15.1	13.5
1913	15.0	15.4	15.8	15.3	15.0	15.0	14.6	14.8	14.9	14.5	14.2	14.5	14.9
Av. 1909–1913	13.5	13.3	13.8	13.9	13.4	13.2	13.2	13.2	14.2	14.1	14.0	13.9	13.6
1914	15.1	14.3	14.5	14.1	13.6	13.3	11.8	13.5	12.8	14.8	14.6	14.9	13.9
1915	15.0	15.8	16.7										
1916	15.8	16.3	16.6	18.6	17.6	18.4	17.9	18.1	19.8	21.0	20.2	20.6	18.4
1917	20.5	21.6	21.8	22.2	21.4	20.8	22.1	23.7	25.2	25.2	25.2	25.2	22.9
1918	[2] 25.2	25.2	26.9	31.8	31.8	31.7	31.7	31.8	[2] 31.8	35.7	[2] 35.7	[2] 35.7	31.2
1919	32.1	31.8	[2] 31.2	31.0	[2] 31.1	[2] 30.8	26.3	[2] 25.3	24.8	24.8	24.2	22.4	28.0
1920	21.8	20.0	22.4	23.2	22.8	23.4	24.3	25.0	28.8	28.7	28.4	27.3	24.6
1921	24.2	21.3	20.2	20.0	19.6	18.2	[2] 17.2	[2] 16.2	16.2	16.2	14.4	13.8	18.1
1922	13.4	13.7	13.7	13.8	13.9	13.9	16.7	16.8	18.4	[2] 18.8	19.2	19.5	16.0
1923	18.1	16.1	14.7	15.2	14.3	14.7	15.6	15.1	14.8	15.7	16.2	15.2	15.5

Division of Statistical and Historical Research. Compiled from Agricultural Statistics 1909–1922, and Agricultural Market Report, 1923, Ministry of Agriculture and Fisheries, Great Britain. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Designated "Foreign" prior to 1917. [2] Interpolated.

TABLE 513.—*Lard, pure: Monthly average price per 100 pounds, Chicago, 1905–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1905	6.73	6.74	6.92	7.12	7.18	7.20	7.09	7.70	7.51	7.12	7.08	7.51	7.16
1906	7.44	7.55	8.03	8.59	8.49	8.74	8.92	8.66	7.79	9.33	9.36	8.75	8.47
1907	9.29	9.70	9.03	8.68	8.95	8.69	8.91	8.89	8.98	8.86	8.16	7.98	8.84
1908	7.70	7.21	7.67	8.19	8.42	8.66	9.30	9.33	9.94	9.62	9.31	9.32	8.72
1909	9.57	9.52	10.05	10.32	10.60	11.54	11.52	11.66	12.23	12.17	12.93	13.12	11.27
1910	12.43	12.50	14.08	12.33	12.95	12.27	11.85	11.82	12.44	12.93	10.82	10.31	12.23
1911	10.32	9.50	8.83	7.93	8.03	8.17	8.30	8.97	9.32	8.85	9.07	9.00	8.86
1912	9.24	8.90	9.37	10.06	10.77	10.87	10.57	10.73	11.06	11.47	11.15	10.46	10.39
1913	9.86	10.50	10.66	11.09	11.05	10.99	11.53	11.28	11.15	10.60	10.63	10.68	10.83
Av. 1909–1913	10.29	10.18	10.60	10.33	10.68	10.77	10.75	10.89	11.24	11.20	10.92	10.71	10.72
1914	10.89	10.67	10.52	10.23	9.95	10.03	10.08	9.69	9.68	10.22	10.89	10.05	10.24
1915	10.09	10.53	9.84	9.95	9.71	9.39	8.05	7.92	8.12	9.07	8.94	9.47	9.31
1916	10.32	9.99	10.79	11.77	12.80	12.87	13.12	13.44	14.47	15.34	16.91	16.66	13.21
1917	15.66	17.00	19.30	21.00	22.30	21.41	20.77	22.40	24.08	24.29	27.13	25.46	21.73
1918	24.39	26.05	26.07	25.44	24.53	24.50	26.09	26.78	26.98	26.66	26.69	25.31	25.79
1919	23.46	24.83	27.35	30.09	33.58	34.15	34.76	30.01	26.19	27.41	25.86	23.11	28.40
1920	23.52	23.14	22.93	22.71	22.75	22.98	21.71	21.16	22.58	23.28	22.07	18.15	22.25
Av. 1914–1920	16.99	17.46	18.11	18.74	19.37	19.33	19.23	18.77	18.87	19.47	19.78	18.32	18.70
1921	16.03	14.91	14.48	13.07	11.88	12.03	13.94	13.65	13.51	12.16	11.62	11.25	13.21
1922	11.19	12.59	13.50	12.62	13.15	13.22	13.06	13.30	13.09	14.12	13.78	13.31	13.07
1923	13.30	13.25	13.67	13.42	13.12	13.18	12.84	12.83	15.06	15.22	15.72	15.04	13.90

Division of Statistical and Historical Research. Prior to February, 1920, figures compiled from the National Provisioner; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 514.—*Bacon, Wiltshire sides,[1] green, firsts: Average prices per pound at Bristol, England, calendar years, 1909–1923.*

Month.	Average for 5 years, 1909–1913.					1909				
	American.	Canadian.	Danish.	Irish.	British.	American.	Canadian.	Danish.	Irish.	British.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	13.2	13.7	14.5	15.0	16.2	10.9	12.2	12.8	13.9	14.8
February	13.3	13.9	14.5	15.2	16.4	11.3	12.2	12.2	14.1	14.8
March	13.9	14.5	15.1	15.7	16.9	12.6	13.5	13.5	15.2	16.1
April	13.8	14.6	15.3	15.8	16.9	13.0	14.6	15.2	16.1	16.1
May	14.0	14.9	15.8	16.6	17.4	13.5	15.2	16.1	16.9	17.4
June	14.2	15.1	15.9	16.9	17.4	13.3	13.9	14.6	16.5	16.9
July	15.0	16.0	17.2	17.3	17.9	13.9	14.8	16.3	16.5	16.9
August	15.4	16.0	17.2	17.6	18.3	14.6	15.2	16.5	17.4	17.8
September	15.4	15.9	16.5	17.2	17.9	15.2	15.9	16.1	16.9	17.4
October	15.0	14.9	15.4	15.9	16.6	15.0	15.0	15.6	15.6	16.9
November	14.1	14.2	15.3	15.2	16.0	15.0	15.0	15.9	16.1	17.4
December	13.4	13.6	14.9	14.9	16.1	14.6	14.1	15.0	15.6	17.4
Average	14.2	14.8	15.6	16.1	17.0	13.6	14.3	15.0	15.9	16.7
	1910					1911				
January	14.8	14.8	15.4	16.1	17.2	13.5	13.9	14.6	15.2	17.2
February	14.8	15.2	15.2	16.1	17.6	13.0	13.7	14.6	15.0	16.7
March	15.9	16.4	16.5	17.4	18.5	13.0	13.7	14.8	15.0	16.7
April	14.8	15.2	15.4	16.3	18.0	12.8	12.6	14.3	14.8	15.9
May	15.4	15.9	16.1	16.3	18.2	11.9	11.7	13.5	14.8	15.6
June	[2] 16.2	16.7	16.9	17.4	18.2	12.8	14.1	15.2	15.9	16.9
July	[2] 17.1	17.6	18.0	18.2	18.7	13.5	14.1	15.6	16.1	16.9
August	[2] 16.1	16.6	17.2	17.8	18.9	14.6	15.2	16.5	16.3	16.9
September	[2] 16.2	16.7	16.9	17.8	18.2	13.5	13.7	15.0	16.1	16.3
October	15.6	15.4	14.8	15.9	16.5	12.2	12.2	13.3	13.9	14.1
November	[2] 13.6	14.1	14.8	15.6	16.9	11.3	11.5	12.2	11.9	13.0
December	[2] 12.5	13.0	14.1	14.8	16.1	11.3	11.1	11.9	12.6	13.5
Average	15.2	15.6	15.9	16.6	17.8	12.8	13.1	14.3	14.8	15.8
	1912					1913				
January	11.5	11.5	12.4	13.0	13.5	15.2	15.9	17.2	16.9	18.2
February	11.7	12.6	13.7	13.7	14.1	15.6	15.9	16.7	16.9	18.7
March	12.4	12.8	13.7	14.1	14.8	15.6	16.1	17.2	17.2	18.2
April	13.0	14.3	15.2	15.2	16.1	15.6	16.1	16.5	16.7	18.2
May	13.3	15.0	15.6	16.1	16.5	16.1	16.9	17.8	18.7	19.1
June	13.3	14.8	15.6	16.3	16.5	15.6	16.1	17.2	18.2	18.7
July	13.9	15.4	16.9	16.9	17.4	16.7	18.2	19.1	18.9	19.6
August	15.2	15.9	17.8	17.6	17.8	16.5	16.9	18.0	18.7	20.0
September	15.6	16.1	16.9	17.2	17.8	16.7	17.2	17.8	18.2	19.6
October	15.9	16.3	17.4	17.4	18.0	16.3	15.6	16.1	16.7	17.4
November	15.0	15.0	17.6	16.1	16.1	15.4	15.2	16.1	16.1	16.7
December	14.3	14.6	17.6	15.6	16.9	14.3	15.0	15.9	16.1	16.5
Average	13.8	14.5	15.9	15.8	16.3	15.8	16.3	17.1	17.4	18.4
	1914					1915				
January	15.0	15.2	16.1	17.2	17.8	16.0	16.9	18.2	18.6	19.5
February	14.4	14.4	14.8	16.8	17.2	15.3	15.9	17.0	17.9	18.7
March	15.0	15.0	15.8	18.0	18.2	15.4	15.9	17.6	18.4	18.9
April	14.8	15.0	16.1	16.7	17.8	15.4	17.1	19.3	20.3	21.0
May	14.4	14.6	15.7	16.4	17.4	16.7	18.6	20.5	21.0	21.4
June	14.4	14.2	15.3	16.6	17.4	16.8	18.8	20.3	20.9	21.3
July	14.6	14.4	15.7	16.8	17.7	15.7	18.7	20.6	20.0	20.8
August	18.3	19.2	19.9	20.1	20.1	16.4	18.9	22.3	22.3	22.9
September	17.8	18.7	19.1	19.8	20.5	18.4	20.1	22.4	22.6	23.5
October	16.4	15.7	15.9	17.9	18.1	20.1	20.3	22.4	22.6	23.4
November	15.8	15.8	16.2	17.3	17.9	19.8	19.8	21.7	22.5	22.9
December	15.2	16.1	16.7	17.8	18.7	18.5	19.2	21.9	21.9	22.8
Average	15.5	15.7	16.4	17.6	18.2	17.0	18.4	20.4	20.8	21.4

[1] Entire half of hog in one piece, head off, backbone out, ribs in.
[2] Interpolated.

TABLE 514.—*Bacon, Wiltshire sides,*[1] *green, firsts: Average prices per pound at Bristol, England, calendar years, 1909–1923*—Continued.

Month.	1916					1917				
	American.	Canadian.	Danish.	Irish.	British.	American.	Canadian.	Danish.	Irish.	British.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	17.4	19.3	22.1	22.3	22.5	22.9	24.8	27.6	28.5	29.7
February	17.0	19.1	21.2	22.1	22.5	27.6	28.9	.....	32.7	33.5
March	18.7	20.8	23.0	23.4	25.1	28.2	28.7	.....	30.1	31.8
April	19.8	21.7	21.9	22.5	26.0	28.5	29.3	.....	30.8	32.5
May	18.9	20.4	23.1	24.2	25.1	28.4	29.3	.....	31.2	32.5
June	17.6	20.8	23.6	23.8	25.1	25.9	26.3	.....	31.4	32.5
July	18.5	22.5	24.6	25.1	25.9	28.9	.....	.....	32.7	32.5
August	22.1	25.1	27.2	28.0	28.5	31.2	.....	.....	34.4	34.6
September	22.5	24.2	25.5	26.8	28.0	32.3	.....	.....	36.7	34.6
October	21.9	22.9	24.8	25.5	27.2	33.3	.....	.....	30.7	34.6
November	22.1	24.0	25.5	26.3	28.0	36.5	.....	.....	38.6	37.3
December	20.8	23.7	25.9	25.9	28.0	37.7	.....	.....	38.6	37.3
Average	19.8	22.0	24.0	24.7	26.0	30.1	.....	.....	33.0	33.6

Month.	1918					1919				
January	37.6	.....	.....	38.6	37.3	39.3	39.3	.....	40.2	40.2
February	37.6	.....	.....	38.6	37.3	39.3	39.3	.....	40.2	40.2
March	37.6	.....	.....	38.6	37.3	38.8	38.8	.....	39.8	39.8
April	37.7	.....	.....	.....	38.6	38.0	39.5	.....	40.6	40.6
May	37.7	37.7	.....	.....	39.9	38.0	39.5	.....	40.6	40.6
June	37.7	37.7	.....	.....	39.9	38.3	39.9	.....	40.3	40.3
July	39.2	39.2	.....	.....	40.2	38.3	40.3	.....	38.6	38.6
August	39.3	39.3	.....	.....	40.2	36.6	39.7	.....	37.3	37.3
September	39.3	39.3	.....	.....	40.2	35.8	35.8	.....	36.5	36.5
October	39.3	39.3	.....	.....	40.2	35.6	35.6	.....	36.4	36.4
November	39.3	39.3	.....	40.2	40.2	35.0	35.0	.....	35.6	35.6
December	39.3	39.3	.....	40.2	40.2	32.3	32.3	.....	34.6	34.6
Average	38.5	.....	.....	.....	39.3	37.1	37.9	.....	38.4	38.4

Month.	1920					1921				
January	31.5	31.5	32.3	33.7	33.7	27.2	34.1	35.6	37.7	38.6
February	28.9	28.9	29.7	31.0	31.0	28.0	30.8	37.8	39.8	41.5
March	32.3	32.3	[2] 33.1	34.6	34.6	27.2	30.7	38.2	41.1	41.9
April	33.5	33.5	[2] 34.4	48.9	49.8	23.9	28.1	39.5	41.2	42.1
May	33.0	33.0	33.9	40.4	43.8	20.4	24.0	32.9	34.3	37.3
June	33.8	33.8	34.7	43.2	43.2	18.5	26.1	32.0	35.0	38.4
July	33.1	35.3	36.0	49.0	49.9	21.1	30.0	33.2	37.0	37.6
August	31.1	33.2	33.9	48.5	48.5	21.2	26.9	31.0	34.9	35.9
September	30.8	32.5	33.7	46.3	47.0	18.6	21.9	30.3	31.3	31.6
October	30.5	32.2	33.3	42.6	40.5	18.0	21.6	27.7	28.0	28.5
November	30.0	35.1	36.2	41.3	42.8	18.4	21.3	27.1	27.7	29.8
December	30.6	35.8	39.5	41.3	43.6	18.9	22.8	28.4	28.9	31.0
Average	31.6	33.1	34.2	41.7	42.8	21.8	26.5	32.8	34.7	36.2

Month.	1922					1923				
January	17.9	21.7	27.9	29.4	31.1	17.9	20.8	24.5	30.3	32.4
February	23.4	26.3	30.2	32.3	33.1	15.7	19.9	23.5	29.3	30.3
March	20.7	22.7	26.4	29.3	31.3	16.4	21.0	23.9	27.5	27.5
April	20.1	24.0	28.4	33.1	34.5	16.6	22.0	25.4	28.1	27.2
May	20.6	27.8	32.8	34.5	34.7	17.3	22.3	24.0	25.8	26.2
June	21.5	27.4	32.8	35.4	35.4	17.3	20.2	23.5	23.9	24.9
July	23.4	27.8	32.0	35.3	35.7	16.7	20.8	23.2	23.7	25.9
August	24.3	28.3	32.1	35.9	36.9	22.6	25.4	29.7	[2] 30.6	32.6
September	21.4	27.7	32.6	32.8	33.6	19.5	21.1	23.1	[2] 24.4	25.4
October	20.6	23.0	27.3	29.7	30.3	18.6	20.2	21.4	22.6	24.6
November	21.6	25.6	29.2	32.0	32.4	16.0	19.6	20.7	21.9	23.9
December	18.5	19.8	25.1	30.0	30.9	14.4	17.9	20.0	21.8	23.0
Average	21.2	25.2	29.7	32.5	33.3	17.5	20.9	23.6	25.8	27.0

Division of Statistical and Historical Research. Compiled from Great Britain, Ministry of Agriculture and Fisheries, Return of Market Prices. Average for the last week of the month. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Entire half of hog in one piece, head off, backbone out, ribs in. [2] Interpolated.

TABLE 515.—*Hams: Prices per pound in Liverpool, 1909–1923.*

AMERICAN, SHORT CUT, GREEN, FIRSTS [1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1909	11.2	10.8	11.3	12.4	12.7	12.9	12.7	14.0	12.9	13.9	14.8	14.1	12.8
1910	14.9	14.9	16.6	15.7	17.0	17.5	17.3	16.0	16.0	14.7	15.5	14.9	15.9
1911	14.2	12.6	12.6	12.4	13.3	15.9	16.1	16.7	13.3	12.4	12.8	12.0	13.7
1912	12.5	11.6	12.7	13.8	14.0	12.0	14.3	14.3	14.3	15.2	15.2	15.4	13.8
1913	15.5	15.3	15.7	16.0	17.0	17.7	18.6	17.5	16.0	15.3	15.3	15.2	16.3
Av. 1909–1913	13.7	13.0	13.8	14.1	14.8	15.4	15.8	15.7	14.5	14.3	14.7	14.3	14.5
1914	15.2	14.4	15.1	14.9	14.5	16.2	16.5	18.3	17.2	15.6	16.3	16.1	15.9
1915	15.8	14.2	13.7	13.5	15.4	15.6	14.9	15.1	16.1	17.3	19.2	21.1	16.0
1916	20.1	18.1	19.4	19.8	19.4	19.5	20.4	23.5	22.5	22.9	22.3	21.2	20.7
1917	24.0	27.4	27.6	28.2	28.9	27.4	28.2	29.1	29.1	29.1	34.4	35.4	29.1
1918	35.4	35.4	35.4	35.5	35.5	35.4	37.9	37.9	37.9	37.9	37.9	37.9	36.7
1919	37.9	37.9	37.5	37.6	37.8	39.3	38.1	36.8	36.4	36.3	37.5	32.8	37.2
1920	31.9	29.4	31.1	34.1	32.5	33.3	38.1	35.8	34.9	34.5	34.3	35.0	33.8
Av. 1914–1920	25.8	25.3	25.7	26.2	26.3	26.7	27.7	27.9	27.7	27.7	28.8	28.5	27.0
1921	30.2	31.2	31.5	27.0	23.1	28.6	34.9	30.0	21.1	20.4	25.7	24.1	27.3
1922	24.5	26.5	25.4	26.0	28.4	29.4	27.8	23.3	20.4	21.0	21.6	20.2	24.5
1923	19.9	18.9	19.1	18.7	19.4	20.7	24.1	22.2	20.3	20.5	22.1	19.5	20.4

AMERICAN, LONG CUT, GREEN, FIRSTS.[1]

1909	10.5	10.3	11.4	12.4	13.1	13.8	13.6	14.9	14.2	15.1	14.4	14.4	13.2
1910	14.5	14.9	17.7	17.0	17.7	18.6	18.3	17.0	17.3	17.6	16.1	14.3	16.8
1911	14.1	12.6	12.6	12.7	13.9	15.9	15.9	16.7	13.3	13.5	13.3	12.0	13.9
1912	11.6	11.6	12.5	13.6	14.7	14.0	13.9	13.9	14.1	15.2	14.9	15.1	13.5
1913	15.5	15.7	16.6	16.8	18.1	18.6	18.8	18.1	16.4	15.2	15.2	14.8	16.6
Av. 1909–1913	13.2	13.0	14.2	14.5	15.5	16.2	16.1	16.1	15.1	15.3	14.8	14.1	14.9
1914	14.8	14.5	15.1	15.1	15.0	16.5	16.9	18.5	16.9	15.6	16.9	16.1	16.0
1915	15.6	14.2	13.9	13.7	16.0	16.6	15.7	15.1	16.1	18.4	19.6	20.7	16.3
1916	19.1	18.1	18.6	19.4	18.8	19.1	19.8	22.3	22.9	23.8	24.4	22.0	20.7
1917	22.7	25.9	27.2	27.8	28.7	26.7	28.2	29.1	29.1	29.1	35.0	36.1	28.8
1918	36.1	36.1	36.1	36.1	36.1	36.1	37.9	37.9	37.9	37.9	37.9	37.9	37.0
1919	37.9	37.9	37.5	38.0	38.2	39.5	38.1	36.8	36.4	36.3	37.5	32.8	37.2
1920	31.9	29.4	31.1	34.1	32.5	33.3	38.1	35.8	34.9	34.5	34.3	35.0	33.7
Av. 1914–1920	25.4	25.2	25.6	26.3	26.5	26.8	27.8	27.9	27.7	27.9	29.4	28.7	27.1
1921	31.1	32.1	32.4	27.0	22.6	28.3	34.9	31.0	23.3	20.7	23.9	21.5	27.4
1922	21.1	25.3	25.4	27.2	[2]30.2	[2]30.8	28.0	23.7	20.2	20.0	20.4	19.6	24.3
1923	19.1	18.9	19.3	[2]21.9	21.1	21.4	22.6	22.6	21.9	20.8	22.7	18.5	20.9

Division of Statistical and Historical Research. Compiled from Return of Market Prices, Great Britain Ministry of Agriculture and Fisheries. Average for the last week of the month. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Short cut, regular American commercial ham; long cut longer both in the butt and shank. Green, cured in pickle or salt but not smoked.

[2] Average of London and Bristol prices, and closely approximates Liverpool price.

TABLE 516.—*Lard, American prime western steam: Average price per pound in Liverpool, 1909–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1909	10.7	10.6	11.2	11.4	11.8	12.7	12.8	12.8	13.4	13.6	14.7	14.9	12.6
1910	14.1	14.0	15.5	14.8	14.5	13.7	13.3	13.1	13.6	13.8	12.7	11.5	13.7
1911	11.5	11.4	10.0	9.1	9.2	9.1	9.1	9.9	10.4	9.9	10.2	10.1	10.0
1912	10.2	10.0	10.2	10.9	11.4	11.6	11.4	11.8	12.4	13.0	12.6	11.9	11.4
1913	11.2	11.8	12.2	12.4	12.3	12.2	12.7	12.7	12.6	12.1	12.2	12.1	12.2
Av. 1909–1913	11.5	11.6	11.8	11.7	11.8	11.9	11.9	12.1	12.5	12.5	12.5	12.1	12.0
1914	12.3	11.8	11.5	11.3	10.8	10.9	11.0	12.6	11.4	11.3	12.2	11.7	11.5
1915	12.0	11.6	11.1	11.2	11.1	10.6	9.3	8.3	8.9	10.2	10.8	11.7	10.6
1916	12.7	12.4	13.8	15.4	16.5	15.7	15.4	15.7	17.3	18.3	20.3	20.1	16.1
1917	20.4	[1]24.8	29.3	27.7	26.3	23.8	23.8	25.0	[2]25.9	[1]27.1	28.2	28.6	25.9
1918	28.6	------	------	------	31.7	31.7	------	------	33.2	33.0	------	------	------
1919	------	------	------	------	------	38.1	37.1	36.3	36.5	36.8	35.6	32.9	------
1920	32.0	29.5	32.9	27.2	------	27.4	26.7	------	------	------	23.8	24.2	------
1921	23.4	[1]23.3	15.7	13.2	11.7	12.1	13.6	13.4	13.2	12.2	12.6	11.7	14.7
1922	11.3	12.9	13.1	12.8	13.6	13.5	13.2	13.3	12.7	13.2	14.1	13.6	13.1
1923	13.3	13.0	13.7	13.6	12.9	13.0	12.7	12.7	14.9	14.5	15.7	15.1	13.7

Division of Statistical and Historical Research. Compiled from Manchester Guardian. An average of Friday quotations. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Interpolated. [2] Government control of prices began Sept. 3, 1917, and ended on Feb. 26, 1921.

HOG-CHOLERA CONTROL.

TABLE 517.—*Hogs: Cholera-control work by Bureau of Animal Industry, 1918-1922.*

Year beginning July 1, and State.	Bureau veterinarians engaged in work.[1]	Premises investigated.	Demonstrations.		Autopsies performed.	Farms quarantined or carded.	Farms cleaned and disinfected.	Outbreaks reported to bureau veterinarians.
			Number.	Hogs treated.				
1918–19	180	93,512	----------	233,987	53,586	9,564	4,382	12,336
1919–20	140	46,125	3,037	347,702	10,963	6,129	2,099	9,788
1920–21	54	29,433	3,420	67,295	3,888	2,268	656	7,961
1921–22	80	47,137	4,343	88,846	5,390	1,401	439	7,920
1922–23								
Alabama	2.67	2,211	588	9,927	93	----------	----------	283
Arkansas	2.20	1,236	206	4,834	50	----------	2	169
California	1	275	50	1,896	245	----------	2	111
Colorado	1	129	----------	----------	86	----------	----------	45
Delaware	1	934	4	19	132	6	30	109
Florida	4.50	2,956	834	19,513	158	1	32	335
Georgia	4	4,276	1,138	26,757	185	----------	4	334
Idaho	2	1,348	8	215	73	42	5	52
Illinois	3.17	1,836	----------	----------	605	208	397	313
Indiana	3.50	3,501	----------	----------	386	122	9	212
Iowa	2.75	1,696	----------	----------	368	----------	----------	338
Kansas	1	855	----------	----------	258	17	17	435
Kentucky	3.42	2,823	163	2,158	128	----------	3	139
Louisiana	1	106	29	859	16	----------	----------	27
Maryland	4	3,080	35	280	220	273	2	574
Michigan	3	1,723	18	1,279	198	123	19	333
Mississippi	2.70	1,338	151	2,104	50	----------	----------	203
Missouri	1.42	1,453	6	142	56	38	8	188
Montana	.14	85	7	345	10	29	4	47
Nebraska	1.50	586	----------	----------	420	----------	----------	213
North Carolina	3.33	6,608	1,158	17,286	150	59	70	332
North Dakota	1	230	4	229	71	385	91	504
Ohio	3	3,670	----------	----------	211	----------	11	541
Oklahoma	3.33	2,138	73	2,158	152	108	2	175
South Carolina	2.58	1,433	630	15,618	155	2	----------	131
South Dakota	1	388	1	2	129	----------	----------	201
Tennessee	1.42	676	32	683	136	59	----------	208
Texas	3.58	2,151	48	1,239	56	148	----------	148
Utah	1	740	----------	----------	43	----------	----------	60
Virginia	1	319	45	834	78	----------	18	194
Washington	.7	130	1	20	36	16	1	41
West Virginia	1	383	4	147	14	14	2	36
Wisconsin	2	1,036	1	38	268	122	12	123
Total	70.91	52,348	5,234	108,562	5,247	1,772	741	7,204

Bureau of Animal Industry.

[1] Fractions denote veterinarians devoting a portion of their time to the work.

HOGS—FEEDING, SHIPMENT, AND MARKETING.

TABLE 518.—*Hogs: Percentage of shrinkage in shipments by cooperative associations, 1921.*[1]

Distance.	By distance.				Month.	By months.			
	Straight shipments.[2]		Mixed shipments.[3]			Straight shipments.[2]		Mixed shipments.[3]	
	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped		Number of animals upon which figures are based.	Shrinkage percentage of weight shipped	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped
Less than 100 miles	86,060	1.48	64,327	1.91	January	67,822	1.14	25,710	1.50
100–150 miles	112,419	1.10	38,039	2.23	February	57,056	1.03	19,680	0.72
150–200 miles	103,605	1.25	14,860	1.91	March	40,047	1.31	18,948	2.29
200–250 miles	109,438	1.24	36,591	2.76	April	48,419	1.39	23,069	2.44
250–300 miles	4,612	2.10	1,092	2.89	May	40,918	1.49	25,500	1.78
300–350 miles	36,639	2.11	18,629	3.47	June	55,399	1.77	22,860	2.57
					July	38,485	1.40	11,840	2.96
350–400 miles	56,156	1.80	54,299	4.00	August	37,594	1.90	16,031	3.12
400–450 miles	41,021	1.71	24,004	3.62	September	38,132	1.86	21,862	2.43
450–500 miles	11,787	1.62	23,557	1.94	October	45,077	1.68	27,313	3.14
500–550 miles	2,778	2.13	173	3.60	November	47,464	1.34	25,638	1.89
550–600 miles	2,751	3.07	----------	----------	December	51,101	1.02	18,970	2.09

Division of Cost of Marketing.

[1] Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.

[2] Straight shipments contain but one species of livestock.

[3] Mixed shipments contain more than one species of livestock.

TABLE 519.—*Hogs: Quantities of feed and other factors required to produce 10 weaned pigs, ten weeks of age, and 100 pounds marketable pork, year 1921 (Iowa and Illinois).*

Items.	10 weaned pigs.		100 pounds marketable pork.	
	Quantities.	Farm value.	Quantities.	Farm value.
Kinds of feed:	*Pounds.*		*Pounds.*	
Corn (shelled basis)	2,036.6	$16.54	413.6	$2.62
Feeds other than corn—				
Oats	277.0	.....	23.29	.....
Barley	8.4	.....	1.1	.....
Wheat	.8	.....	.04	.....
Soybeans	3.4	.....	.4	.....
Tankage	49.1	.....	8.8	.....
Oilmeal	8.7	.....	3.2	.....
Millfeeds[1]	15.8	.....	1.5	.....
Pumpkins	.....	.....	.4	.....
Skim milk	263.5	.....	28.3	.....
Alfalfa hay	11.7	.....	.2	.....
Clover hay	5.6	.....	.5	.....
Value of feed other than corn	.....	5.92	.....	.66
Pasture unit days[2]	8.9	2.22	2.2	.53
Minerals	.....	.26	.....	.08
Bedding	122.9	.33	7.0	.02
Hours of man labor	21.0	5.80	1.7	.48
Hours of horse use	1.1	.16	.3	.04
Buildings and equipment, veterinary, insurance, taxes, overhead expenses, incidentals, and interest	.....	13.77	.....	1.65
Total cost	.....	45.00	.....	6.08

Division of Cost and Production. Based on records of 709 spring litters (3,574 pigs), and 51 droves of spring pigs (855,140 pounds, marketable pork).

[1] Shorts and Red Dog flour.

[2] Pasture unit day is pasturage required to carry five 200 pound sows a day.

TABLE 520.—*Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.*

BY MARKETS—STRAIGHT SHIPMENTS.[1]

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Buffalo	23,305	195	0.91	0.93	199	0.31	0.25	157
Chicago	317,621	250	.64	.63	247	.26	.25	246
Cleveland	8,895	203	.57	.55	197	.21	.22	208
East St. Louis	50,176	207	.38	.40	222	.19	.24	255
Kansas City	25,087	239	.35	.33	228	.15	.16	266
Milwaukee	15,072	229	.65	.69	240	.14	.14	235
Omaha	18,309	278	.51	.45	245	.12	.12	272
Pittsburgh	38,856	190	.44	.46	196	.23	.22	181
Sioux City	13,582	241	.46	.47	243	.19	.17	209
Sioux Falls	15,117	242	.41	.41	243	.17	.15	216
St. Joseph	21,293	238	.24	.25	250	.13	.13	237
St. Paul	12,517	238	.22	.24	255	.28	.33	285

[1] Straight shipments contain but one species of livestock.

TABLE 520.—*Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921*—Continued.

BY MARKETS—MIXED SHIPMENTS.[1]

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Buffalo	80,437	198	1.10	1.14	203	0.53	0.44	165
Chicago	19,577	249	.90	.86	243	.41	.42	252
Cleveland	25,661	198	.50	.46	180	.20	.18	185
East St. Louis	5,639	206	.46	.40	179	.37	.33	183
Kansas City	14,340	245	.26	.27	255	.33	.34	254
Milwaukee	14,848	225	.50	.47	211	.24	.23	218
Omaha	4,884	275	.47	.44	258	.20	.23	320
Pittsburgh	63,908	189	.63	.60	180	.25	.30	178
Sioux Falls	1,159	235	.43	.51	280	.26	.21	183
St. Joseph	5,785	245	.26	.28	269	.22	.18	202
St. Paul	50,216	238	.28	.26	224	.17	.17	242

Division of Cost of Marketing.

[1] Mixed shipments contain more than one species of livestock.

TABLE 521.—*Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.*

BY DISTANCE—STRAIGHT SHIPMENTS.[1]

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Less than 100 miles	97,439	242	0.33	0.31	229	0.12	0.11	235
100–150 miles	124,791	231	.40	.43	238	.20	.22	254
150–200 miles	120,523	235	.41	.40	232	.24	.18	210
200–250 miles	118,845	230	.44	.45	234	.18	.16	210
250–300 miles	4,764	219	.21	.18	183	.21	.20	209
300–350 miles	37,400	254	.89	.83	236	.34	.34	255
350–400 miles	78,293	250	.74	.72	244	.38	.41	270
400–450 miles	43,517	247	.82	.79	234	.33	.31	236
450–500 miles	12,790	241	.86	.86	240	.18	.17	230
500–550 miles	2,997	238	.60	.79	314	.37	.31	203
550–600 miles	2,751	237	1.27	1.38	258	.29	.33	274

BY DISTANCE—MIXED SHIPMENTS.[2]

Less than 100 miles	72,960	232	0.37	0.35	217	0.18	0.18	229
100–150 miles	52,465	224	.47	.45	209	.27	.28	228
150–200 miles	18,567	237	.34	.36	250	.36	.40	263
200–250 miles	42,120	190	.39	.39	185	.20	.20	184
250–300 miles	1,752	213	.45	.41	194	.11	.18	345
300–350 miles	18,684	200	1.16	1.07	184	.35	.31	178
350–400 miles	62,016	204	1.11	1.15	210	.44	.40	186
400–450 miles	25,166	195	1.02	1.02	196	.49	.33	166
450–500 miles	3,688	203	1.06	1.03	198	.32	.31	195

[1] Straight shipments contain but one species of livestock.
[2] Mixed shipments contain more than one species of livestock.

TABLE 521.—*Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921*—Continued.

BY MONTHS—STRAIGHT SHIPMENTS.[1]

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
January	76,266	234	0.69	0.73	248	0.19	0.18	222
February	64,486	235	.65	.67	246	.17	.16	222
March	45,055	244	.57	.58	245	.21	.20	241
April	54,188	238	.46	.47	244	.24	.25	244
May	46,721	234	.44	.43	233	.43	.53	290
June	63,073	237	.36	.35	236	.23	.28	284
July	43,602	247	.35	.31	220	.17	.17	255
August	43,819	260	.41	.41	254	.14	.12	215
September	42,318	254	.36	.34	244	.27	.23	216
October	50,105	230	.38	.36	220	.23	.22	226
November	54,259	209	.57	.61	222	.23	.21	191
December	59,715	205	.73	.77	227	.17	.16	211

BY MONTHS—MIXED SHIPMENTS.[1]

January	28,629	226	0.98	0.98	226	0.38	0.27	159
February	22,646	223	.87	.81	207	.25	.19	172
March	21,868	219	.68	.67	217	.47	.41	190
April	25,879	205	.57	.55	200	.27	.33	253
May	28,524	207	.60	.55	190	.42	.41	208
June	26,328	211	.54	.49	190	.39	.40	216
July	13,631	222	.56	.47	185	.25	.28	253
August	18,865	214	.61	.58	203	.28	.28	213
September	25,494	198	.53	.55	203	.33	.31	188
October	32,694	207	.51	.49	197	.33	.31	194
November	29,705	217	.57	.53	200	.21	.17	163
December	23,452	224	.92	.88	212	.27	.21	160

Division of Cost of Marketing.

[1] Straight shipments contain but one species of livestock.
[2] Mixed shipments contain more than one species of livestock.

TABLE 522.—*Hogs: Principal terminal marketing costs, eight markets, 1921.*

Market.	Number of head upon which figures are based.	Cents per 1,000 lbs., home weight, straight shipments.											
		Commission.			Yardage.			Feed.			Commission, yard, and feed combined.		
		Avg.[1]	Low.[1]	High.[1]	Avg.[1]	Low.[1]	High.[1]	Avg.[1]	Low.[1]	High.[1]	Avg.[1]	Low.[1]	High.[1]
Chicago	124,338	98.7	85.1	112.5	44.8	36.2	56.2	34.1	21.8	44.4	177.6	153.8	205.4
St. Paul	10,334	82.6	75.4	102.4	42.1	36.3	53.0	50.2	33.0	70.0	174.9	160.1	208.8
St. Joseph	21,663	88.6	77.6	119.3	48.7	41.8	56.6	42.1	34.6	70.2	179.4	156.5	240.3
Kansas City	16,590	83.6	75.7	103.7	50.5	37.8	58.5	37.8	29.3	57.1	171.9	161.4	218.7
Omaha	14,638	86.8	69.7	113.3	44.0	37.4	45.7	28.9	19.5	35.0	159.7	132.8	181.0
Sioux Falls	14,394	93.8	80.6	108.8	47.7	42.3	50.9	38.7	28.8	45.7	180.2	163.2	187.9
Buffalo	18,564	77.7	68.3	85.2	58.6	54.7	105.0	76.4	58.9	102.6	212.7	201.4	259.0
Pittsburgh	37,306	93.8	85.3	112.1	58.5	42.3	64.8	71.1	23.7	106.5	223.4	178.1	262.5

Division of Cost of Marketing. Data from 237 cooperative shipping associations in the Corn Belt.

[1] Averages are of associations shipping to the given market, weighted on the volume of business, not based on shipments. Low figures are for low cost associations and high figures are for high cost associations.

FARM ANIMALS AND THEIR PRODUCTS--PART II. GENERAL, HORSES, SHEEP, AND POULTRY.

SHEEP.

TABLE 523.—*Sheep: Number and value on farms, United States, January 1, 1867–1924.*

Jan. 1.	Number.	Price per head Jan. 1.	Farm value Jan. 1.	Jan. 1.	Number.	Price per head Jan. 1.	Farm value Jan. 1.
	Thousands.	*Dollars.*	*Thousand dollars.*		*Thousands.*	*Dollars.*	*Thousand dollars.*
1867	39,385	2.50	98,644	1897	36,819	1.82	67,021
1868	38,992	1.82	71,053	1898	37,657	2.46	92,721
1869	37,724	1.64	62,037	1899	39,114	2.75	107,693
1870, June 1	*28,478*	1.90	54,062	1900, June 1	*61,504*	3.03	186,271
1871	31,851	2.14	68,310	1901	59,757	2.98	178,072
1872	31,679	2.61	82,768	1902	62,039	2.65	164,446
1873	33,002	2.71	89,427	1903	63,965	2.63	168,316
1874	33,988	2.43	82,353	1904	51,630	2.59	133,540
1875	33,784	2.55	86,278	1905	45,170	2.82	127,332
1876	35,935	2.37	85,121	1906	50,632	3.54	179,056
1877	35,804	2.13	76,362	1907	53,240	3.84	204,219
1878	35,740	2.21	78,898	1908	54,631	3.88	211,736
1879	38,124	2.07	78,965				
1880, June 1	*55,192*	2.29	80,757	1909	56,084	3.43	192,632
1881	43,570	2.39	104,071	1910, Apr. 15	*52,448*	4.12	216,030
				1911	53,633	3.91	209,535
1882	45,016	2.37	106,596	1912	52,362	3.46	181,170
1883	49,237	2.53	124,366	1913	51,482	3.94	202,779
1884	50,627	2.37	119,903				
1885	50,360	2.14	107,961	Av. 1909–1913	53,202	3.77	200,429
1886	48,322	1.91	92,444				
				1914	49,719	4.02	200,045
1887	44,759	2.01	89,873	1915	49,956	4.50	224,687
1888	43,545	2.05	89,280	1916	48,625	5.17	251,594
1889	42,599	2.13	90,640	1917	47,616	7.13	339,529
1890, June 1	*55,955*	2.41	86,447	1918	48,603	11.82	574,575
1891	43,431	2.50	108,397	1919	48,866	11.63	568,265
				1920	39,025	10.47	408,586
1892	44,938	2.58	116,121				
1893	47,274	2.66	125,909	Av. 1914–1920	47,487	7.72	366,754
1894	45,048	1.98	89,186				
1895	42,294	1.58	66,686	1921	37,452	6.30	235,855
1896	38,299	1.70	65,108	1922	36,327	4.80	174,545
				1923	37,223	7.51	279,464
				1924 [1]	38,361	7.88	302,092

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Preliminary.

TABLE 524.—*Sheep: Yearly losses per 1,000 from disease and exposure, 1890–1924.*

Year ending Apr. 30.	Loss per 1,000.		Year ending Apr. 30.	Loss per 1,000.		Year ending Apr. 30.	Loss per 1,000.		Year ending Apr. 30.	Loss per 1,000.	
	From disease.	From exposure.		From disease.	From exposure.		From disease.	From exposure		From disease	From exposure
1890–90	24.0	51.0	1898–99	21.0	35.0	1907–8	22.5	22.9	1916–17	21.8	32.4
1890–91	23.0	17.0	1899–1900	20.0	18.0	1908–9	26.6	28.3	1917–18	19.8	19.3
1891–92	19.0	14.0	1900–1	24.0	22.0	1909–10	27.5	43.9	1918–19	19.7	24.4
1892–93	24.0	20.0	1901–2	25.0	31.6	1910–11	25.5	22.0	1919–20	23.7	34.6
1893–94	20.0	15.0	1902–3	27.8	53.6	1911–12	26.7	47.0	1920–21	23.1	15.6
1894–95	26.0	29.0	1903–4	26.0	37.7	1912–13	24.8	25.0	1921–22	21.4	26.4
1895–96	27.0	21.0	1904–5	24.6	30.8	1913–14	21.9	22.0	1922–23	22.4	24.1
1896–97	28.0	32.0	1905–6	22.2	37.0	1914–15			1923–24	20.0	17.5
1897–98	26.0	27.0	1906–7	25.6	35.4	1915–16	21.6	21.7			

Division of Crop and Livestock Estimates. As reported by crop reporters May 1, for year ending April 30.

TABLE 525.—*Sheep, including lambs: Number and value on farms January 1, 1922–1924.*

State.	Number Jan. 1.			Average price per head Jan. 1.			Farm value Jan. 1.		
	1922	1923	1924 [1]	1922	1923	1924	1922	1923	1924 [1]
	Thousands.	*Thousands.*	*Thousands.*	*Dollars.*	*Dollars.*	*Dollars.*	*Thousand dollars.*	*Thousand dollars.*	*Thousand dollars.*
Maine	95	90	90	4.80	6.70	7.10	456	603	639
New Hampshire	20	18	18	5.60	7.80	7.30	112	140	131
Vermont	48	43	44	5.60	7.00	7.40	240	301	326
Massachusetts	17	16	14	6.60	6.90	7.90	112	110	111
Rhode Island	3	3	3	6.30	7.90	8.00	19	24	24
Connecticut	9	8	8	7.50	7.80	7.90	68	62	63
New York	512	532	543	5.80	8.50	9.30	2,970	4,522	5,050
New Jersey	10	10	10	7.40	7.50	8.90	74	75	89
Pennsylvania	468	477	482	5.80	7.10	7.80	2,714	3,387	3,760
Delaware	3	3	3	6.00	7.40	7.00	18	22	21
Maryland	89	93	96	6.20	7.50	8.50	552	698	816
Virginia	322	338	355	5.60	7.60	8.10	1,803	2,569	2,876
West Virginia	480	504	504	4.80	6.90	7.30	2,304	3,478	3,679
North Carolina	84	81	82	4.90	5.60	6.40	412	454	525
South Carolina	23	23	23	3.00	4.20	4.70	69	97	108
Georgia	70	66	63	2.70	3.00	2.60	189	198	164
Florida	64	63	64	3.10	3.50	2.90	198	220	186
Ohio	1,957	2,094	2,115	4.60	7.10	7.30	9,002	14,867	15,440
Indiana	606	648	700	5.20	8.00	8.40	3,151	5,184	5,880
Illinois	516	516	593	5.30	7.90	8.20	2,735	4,076	4,863
Michigan	1,115	1,171	1,171	5.20	8.00	8.30	5,798	9,368	9,719
Wisconsin	367	341	341	4.60	7.50	8.10	1,688	2,558	2,762
Minnesota	445	400	428	4.70	7.20	8.00	2,092	2,880	3,424
Iowa	775	829	928	5.40	8.40	8.30	4,185	6,964	7,702
Missouri	1,042	1,105	1,205	4.50	7.10	7.60	4,689	7,846	9,158
North Dakota	250	240	254	4.60	7.30	7.80	1,150	1,752	1,981
South Dakota	689	689	696	4.50	7.70	7.80	3,100	5,305	5,429
Nebraska	596	733	660	5.20	8.10	7.90	3,099	5,937	5,214
Kansas	285	285	299	4.80	7.30	7.10	1,368	2,080	2,123
Kentucky	631	694	701	5.00	7.00	7.90	3,155	4,858	5,538
Tennessee	340	340	326	4.00	5.50	5.90	1,360	1,870	1,923
Alabama	83	90	86	2.70	3.40	4.00	224	306	344
Mississippi	142	142	135	3.00	2.60	2.80	426	369	378
Louisiana	124	122	116	2.80	2.90	3.10	347	354	360
Texas	3,077	2,862	3,091	3.40	5.20	5.90	10,462	14,882	18,237
Oklahoma	91	73	80	4.30	5.80	5.90	391	423	472
Arkansas	90	81	81	2.90	3.10	3.20	261	251	259
Montana	2,270	2,270	2,370	4.70	8.70	8.70	10,669	19,749	20,619
Wyoming	2,420	2,686	2,767	5.50	9.00	9.00	13,310	24,174	24,903
Colorado	2,054	2,444	2,360	4.60	7.60	7.50	9,448	18,574	17,700
New Mexico	2,343	2,062	2,248	3.90	6.40	6.50	9,138	13,197	14,612
Arizona	1,100	1,155	1,155	4.90	6.30	7.10	5,390	7,276	8,200
Utah	2,250	2,340	2,457	4.90	8.90	8.60	11,025	20,826	21,130
Nevada	1,190	1,119	1,141	5.30	8.90	9.00	6,307	9,959	10,269
Idaho	2,492	2,542	2,491	6.00	8.30	8.80	14,952	21,099	21,921
Washington	500	520	598	5.40	8.00	8.70	2,700	4,160	5,203
Oregon	1,860	1,860	1,916	4.50	6.40	8.20	8,370	11,904	15,711
California	2,310	2,402	2,450	5.30	8.10	9.00	12,243	19,456	22,050
United States	36,327	37,223	38,361	4.80	7.51	7.88	174,545	279,464	302,092

Division of Crop and Livestock Estimates.

[1] Preliminary

TABLE 526.—*Sheep: Receipts and shipments at principal markets and at all markets, 1900–1923.*

RECEIPTS.

Calendar year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total nine markets.	All other markets reporting.	Total all markets reporting.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	3,549	306	416	(2)	860	1,277	390	490	61	7,349	(1)	(1)
1901	4,044	226	520	(2)	980	1,315	526	332	67	8,010	(1)	(1)
1902	4,516	317	523	10	1,154	1,748	561	602	61	9,487	(1)	(1)
1903	4,583	465	528	125	1,152	1,864	599	876	42	10,234	(1)	(1)
1904	4,565	519	668	104	1,004	1,754	704	773	28	10,109	(1)	(1)
1905	4,737	738	645	125	1,319	1,971	981	818	57	11,391	(1)	(1)
1906	4,805	826	579	98	1,617	2,165	827	735	64	11,716	(1)	(1)
1907	4,218	828	565	113	1,582	2,039	764	568	65	10,742	(1)	(1)
1908	4,352	675	679	120	1,641	2,106	592	359	59	10,583	(1)	(1)
1909	4,441	634	776	188	1,645	2,167	621	496	78	11,046	(1)	(1)
1910	5,229	596	736	163	1,841	2,985	560	865	151	13,126	(1)	(1)
1911	5,736	617	992	187	2,175	2,978	718	712	212	14,327	(1)	(1)
1912	6,056	777	1,031	284	2,134	2,951	729	628	207	14,797	(1)	(1)
1913	5,903	620	950	328	2,095	3,222	812	785	271	14,986	(1)	(1)
1914	5,378	692	749	408	2,002	3,114	830	795	404	14,372	(1)	(1)
1915	3,510	765	648	363	1,815	3,208	878	704	337	12,288	6,147	18,435
1916	4,291	1,409	671	431	1,758	3,171	804	623	321	13,479	7,213	20,692
1917	3,595	2,060	531	406	1,499	3,017	679	430	267	12,484	7,732	20,216
1918	4,630	1,652	536	335	1,667	3,396	827	630	387	14,060	8,435	22,495
1919	5,244	2,087	724	453	1,945	3,789	1,007	912	686	16,847	10,409	27,256
1920	4,005	2,079	605	394	1,687	2,891	843	729	359	13,591	9,947	23,538
1921	4,734	1,468	636	357	1,780	2,753	931	633	288	13,580	10,588	24,168
1922	3,874	1,867	628	325	1,574	2,533	730	499	223	12,253	10,111	22,364
1923	4,098	1,857	561	386	1,671	2,970	979	454	216	13,192	8,833	22,025

SHIPMENTS.

1900	487	(1)	62	(2)	(1)	552	103	404	28	1,636	(1)	(1)
1901	763	(1)	75	(2)	(1)	563	102	208	20	1,731		(1)
1902	832	(1)	72	(1)	(1)	863	129	485	25	2,406		
1903	1,000	(1)	77	(1)	(1)	892	144	682	23	2,818		
1904	1,362	(1)	101	(1)	(1)	819	275	622	21	3,200		
1905	1,356	(1)	90	(1)	(1)	1,016	292	612	38	3,404	(1)	(1)
1906	1,341	(1)	108	(1)	(1)	1,176	195	580	27	3,427	(1)	(1)
1907	1,149	(1)	91	(1)	(1)	1,023	181	489	32	2,965	(1)	(1)
1908	1,214	(1)	119	(1)	(1)	1,098	138	241	28	2,838	(1)	(1)
1909	940	(1)	114	(1)	(1)	959	127	348	34	2,522	(1)	(1)
1910	1,494	(1)	77	(1)	(1)	1,694	137	689	79	4,170	(1)	(1)
1911	1,283	(1)	108	(1)	(1)	1,565	152	542	63	3,713	(1)	(1)
1912	1,175	(1)	97	(1)	(1)	1,343	154	431	85	3,235	(1)	(1)
1913	1,450	(1)	70	(1)	(1)	1,586	175	596	70	3,947	(1)	(1)
1914	1,273	(1)	44	(1)	(1)	1,198	170	565	87	3,337	(1)	(1)
1915	258	653	72	163	611	1,369	264	536	124	4,050	2,700	6,750
1916	829	1,291	86	259	556	1,301	181	485	114	5,102	4,091	9,193
1017	836	1,958	69	248	583	1,638	207	319	97	5,955	5,055	11,010
1918	1,205	1,484	68	175	744	1,953	248	463	178	6,518	5,686	12,204
1919	1,309	1,822	125	276	783	2,150	301	676	408	7,850	6,735	14,585
1920	1,202	1,864	140	204	623	1,474	228	416	160	6,311	6,252	12,563
1921	1,352	1,288	245	207	485	1,124	200	298	98	5,297	6,036	11,333
1922	1,273	1,693	223	244	558	1,094	154	176	69	5,484	6,193	11,677
1923	1,414	1,685	207	231	554	1,288	226	194	80	5,879	5,851	11,730

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from 14th Annual Report of Bureau of Animal Industry; 1907 to 1914 from Merchants' Exchange Annual Report); subsequent figures from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Figures prior to 1915 not obtainable.
[2] Not in operation.

TABLE 527.—*Sheep: Receipts at all public stockyards, 1915–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1915 [1]	1,517	1,257	1,248	1,019	1,050	1,080	1,264	1,725	2,501	2,359	2,042	1,373	18,435
1916 [1]	1,459	1,280	1,156	1,144	1,347	1,394	1,451	1,984	2,650	3,231	2,126	1,479	20,692
1917	1,578	1,384	1,256	1,152	1,059	1,240	1,353	1,763	2,554	3,195	2,099	1,583	20,216
1918	1,354	1,096	1,270	1,159	1,214	1,429	1,639	2,270	3,496	3,327	2,605	1,626	22,485
1919	1,594	1,157	1,268	1,438	1,468	1,775	2,287	3,360	3,854	3,754	2,845	2,456	27,256
1920	1,614	1,416	1,315	1,456	1,488	1,640	2,034	2,606	2,895	3,027	2,471	1,566	23,538
1921	1,792	1,516	1,750	1,677	1,916	1,849	1,776	2,500	2,618	3,042	2,068	1,664	24,168
1922	1,835	1,399	1,495	1,227	1,092	1,700	1,677	1,951	2,303	3,311	2,288	1,516	22,264
1923	1,636	1,366	1,430	1,447	1,794	1,426	1,661	1,800	2,659	3,464	1,816	1,526	22,025

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

TABLE 528.—*Sheep: Receipts at Chicago, East St. Louis, Kansas City, and Omaha combined, 1900–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	491	449	492	490	515	431	445	613	577	743	479	380
1901	455	424	462	613	562	467	568	581	749	830	652	477
1902	504	401	448	423	440	519	580	734	998	1,203	871	815
1903	559	523	562	551	482	434	546	721	1,022	1,143	936	646
1904	637	715	683	533	507	567	312	675	976	1,090	751	513
1905	623	609	643	633	668	515	604	693	1,105	1,225	784	570
1906	729	655	775	672	658	539	612	763	990	1,268	849	658
1907	755	644	658	687	514	499	575	685	1,042	1,191	638	519
1908	598	575	562	590	589	614	616	800	1,287	982	822	741
1909	576	565	700	593	465	607	636	862	1,206	1,281	841	700
1910	651	522	551	477	577	631	704	1,199	1,609	1,820	1,258	702
1911	822	686	740	686	763	796	807	1,085	1,566	2,003	1,115	810
1912	1,020	849	856	770	665	671	837	1,052	1,528	1,906	1,113	905
1913	892	750	710	770	737	732	831	963	1,869	1,848	1,089	979
Av. 1909–1913	792	674	711	659	641	687	781	1,032	1,556	1,772	1,083	819
1914	934	863	909	858	707	716	723	979	1,558	1,512	705	779
1915	799	670	723	540	469	531	637	931	1,337	1,000	868	736
1916	742	607	632	586	632	659	634	991	1,301	1,403	854	761
1917	796	693	682	592	441	470	526	650	1,111	1,219	715	756
1918	716	525	620	518	538	554	726	989	1,770	1,569	952	741
1919	780	547	564	623	612	742	1,008	1,461	1,968	1,400	951	957
1920	666	619	580	462	532	632	827	1,189	1,288	946	817	631
Av. 1914–1920	776	659	673	597	562	615	739	1,027	1,476	1,291	837	766
1921	813	709	819	754	729	725	645	1,109	1,173	1,095	686	664
1922	753	602	640	517	659	690	695	826	835	1,072	726	594
1923	782	665	735	690	672	529	711	807	1,179	1,231	612	685

Division of Statistical and Historical Research. Prior to 1915 figures compiled from yearbooks of the stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 529.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923.*

RECEIPTS.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Albany, N. Y.	------	23	45	1	1	(1)	(1)	(1)	------
Amarillo, Tex.	75	56	158	155	236	189	38	73	101
Atlanta, Ga.	------	------	2	1	2	1	2	2	5
Augusta, Ga.	------	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Baltimore, Md.	306	279	349	359	371	367	466	306	284
Billings, Mont.	11	53	22	25	77	26	3	------	------
Birmingham, Ala.	------	2	1	1	1	1	1	(1)	(1)
Boston, Mass.	3	3	3	4	4	5	2	2	4
Buffalo, N. Y.	835	1,024	756	904	1,100	1,052	1,380	1,191	1,226
Chattanooga, Tenn.	------	4	2	3	3	2	3	4	2
Cheyenne, Wyo.	------	------	210	371	442	223	148	139	169
Chicago, Ill.	3,510	4,291	3,595	4,630	5,244	4,005	4,734	3,874	4,096
Cincinnati, Ohio.	356	332	270	275	335	366	438	394	345
Cleveland, Ohio.	259	254	320	370	467	420	370	360	333
Columbia, S. C.	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1
Columbus, Ohio.	1	1	(1)	1	1	1	1	2	1
Dallas, Tex.	------	1	(1)	(1)	(1)	1	1	1	(1)
Dayton, Ohio.	11	4	4	5	11	9	7	8	7
Denver, Colo.	765	1,409	2,060	1,652	2,087	2,079	1,468	1,807	1,857
Detroit, Mich.	269	284	297	279	344	328	343	356	298
Dublin, Ga.	------	------	------	------	(1)	(1)	------	(1)	------
East St. Louis, Ill.	648	671	531	536	724	605	636	628	561
El Paso, Tex.	99	117	211	88	252	136	71	49	73
Emeryville, Calif.	------	------	136	98	156	157	170	165	------
Erie, Pa.	------	------	------	100	38	38	------	------	------
Evansville, Ind.	------	7	9	11	14	14	8	11	9
Fort Wayne, Ind.	------	------	------	------	------	------	------	------	5
Fort Worth, Tex.	363	431	406	335	453	394	357	325	396
Fostoria, Ohio.	13	12	12	10	11	17	21	14	12
Indianapolis, Ind.	113	98	102	114	131	136	145	147	124
Jacksonville, Fla.	------	1	(1)	2	2	1	(1)	(1)	(1)
Jersey City, N. J.	1,029	1,546	1,329	1,095	1,532	1,554	1,994	1,854	1,276
Kansas City, Mo.	1,815	1,758	1,499	1,667	1,945	1,687	1,780	1,574	1,671
Knoxville, Tenn.	1	2	3	2	2	1	1	2	1
Lafayette, Ind.	3	2	4	5	8	8	8	4	4
Lancaster, Pa.	2	1	160	257	74	122	12	27	53
Laredo, Tex.	------	------	------	------	------	------	------	------	1
Logansport, Ind.	(1)	(1)	(1)	1	(1)	1	1	1	1
Los Angeles, Calif.	------	------	------	------	------	------	------	------	75
Louisville, Ky.	308	343	272	267	273	277	286	318	265
Marion, Ohio.	------	------	------	2	32	50	15	13	11
Memphis, Tenn.	------	4	(1)	2	1	2	(1)	1	2
Milwaukee, Wis.	86	55	48	57	65	61	59	45	40
Mobile, Ala.	(1)	1	1	------	------	------	------	------	------
Montgomery, Ala.	------	------	1	7	7	4	2	2	3
Moultrie, Ga.	------	------	------	------	------	------	1	------	(1)
Nashville, Tenn.	------	47	94	114	147	129	138	152	129
Nebraska City, Nebr.	------	------	------	(1)	1	1	(1)	------	------
Newark, N. J.	------	------	------	------	------	------	------	------	29
New Brighton, Minn.	146	169	83	203	276	166	293	290	------
New Orleans, La.	------	4	6	9	6	6	4	4	4
New York, N. Y.	179	94	80	271	291	158	221	143	74
North Salt Lake, Utah.	------	404	357	424	388	481	368	459	449
Ogden, Utah.	------	------	380	423	516	603	576	704	849
Oklahoma, Okla.	69	115	50	32	19	15	18	18	9
Omaha, Nebr.	3,268	3,171	3,017	3,386	3,789	2,891	2,753	2,533	2,970
Pasco, Wash.	------	------	------	58	131	92	72	66	66
Peoria, Ill.	1	1	1	1	4	3	7	3	4
Philadelphia, Pa.	312	282	185	231	298	349	454	352	248
Pittsburgh, Pa.	419	337	563	553	767	922	1,197	1,204	1,045
Portland, Oreg.	197	171	141	149	215	236	329	205	179
Pueblo, Colo.	794	806	809	762	837	734	541	645	704
Richmond, Va.	7	10	5	7	10	10	13	13	9
Roanoke, Va.	------	------	------	------	------	------	------	------	4
St. Joseph, Mo.	878	804	679	827	1,007	843	931	730	979

[1] Less than 500.

TABLE 529.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

RECEIPTS—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
St. Louis, Mo.	153	109	62	25					
St. Paul, Minn.	704	623	430	630	912	729	633	499	454
San Antonio, Tex.	17	26	51	41	88	70	40	66	23
Seattle, Wash.		20	9	52	102	91	91	70	86
Sioux City, Iowa.	337	321	267	387	686	358	288	223	216
Sioux Falls, S. Dak.			(1)	2	37	5	2	2	5
Spokane, Wash.	2	32	39	102	117	127	73	63	28
Springfield, Ohio.									9
Tacoma, Wash.		12	28	28	33	44	55	39	
Toledo, Ohio.	41	29	34	29	54	69	23	20	13
Washington, D. C.		15	7	8	20	27	35	21	17
Wichita, Kans.	30	21	27	40	59	39	32	82	120
Total.	18,435	20,092	20,216	22,485	27,256	23,538	24,168	22,364	22,025

LOCAL SLAUGHTER.

Albany, N. Y.			2	(1)	(1)	(1)	(1)		
Atlanta, Ga.			(1)	(1)	1	1	1	1	3
Augusta, Ga.			(1)	(1)	(1)	(1)	(1)	(1)	(1)
Baltimore, Md.	105	93	60	85	103	121	186	144	131
Billings, Mont.			(1)		(1)		1		
Birmingham, Ala.		1	1	1	(1)	1	1	(1)	(1)
Buffalo, N. Y.		183	119	142	231	263	243	193	161
Chattanooga, Tenn.				2	2	2	3	4	2
Chicago, Ill.	3,252	3,462	2,759	3,425	3,935	2,803	3,383	2,601	2,684
Cincinnati, Ohio.	124	79	51	52	84	81	121	91	62
Cleveland, Ohio.	168	144	118	132	176	168	234	189	183
Columbia, S. C.		(1)		(1)	(1)	(1)	(1)	(1)	1
Columbus, Ohio.	1	1	(1)	(1)	(1)	(1)	1	1	1
Dallas, Tex.		1	(1)	(1)	(1)	1	1	1	(1)
Dayton, Ohio.	11	2	2	2	4	6	5	5	5
Denver, Colo.	113	116	95	174	241	239	180	172	169
Detroit, Mich.		209	156	138	212	210	168	196	194
East St. Louis, Ill.	576	584	462	468	599	465	391	405	354
El Paso, Tex.			3	6	3	7	7	7	8
Emeryville, Calif.			135	101	156	157	170	165	
Erie, Pa.				3	4	1			
Evansville, Ind.		1	1	1	1	3	3	3	2
Fort Wayne, Ind.									1
Fort Worth, Tex.	201	189	144	131	164	206	157	80	155
Fostoria, Ohio.			4	(1)	(1)	(1)	(1)	2	(1)
Indianapolis, Ind.	40	31	21	16	26	31	44	64	61
Jacksonville, Fla.			(1)	1	1	(1)	(1)	(1)	(1)
Jersey City, N. J.	1,029	1,546	1,329	1,095	1,532	1,554	1,994	1,854	1,276
Kansas City, Mo.	1,194	1,177	886	951	1,176	1,066	1,307	1,000	1,101
Knoxville, Tenn.	1	(1)	(1)	1	1	1	1	1	1
Lafayette, Ind.		1	1	1	2	1	2	1	2
Lancaster, Pa.				1	1	2	2	1	2
Laredo, Tex.									1
Logansport, Ind.	(1)	(1)	(1)			(1)	(1)	(1)	(1)
Los Angeles, Calif.									71
Louisville, Ky.	20	25	20	24	24	29	26	27	24
Marion, Ohio.				(1)	(1)	1	(1)	(1)	(1)
Memphis, Tenn.					(1)		(1)	(1)	(1)
Milwaukee, Wis.	51	38	38	34	42	45	47	34	29
Mobile, Ala.	(1)	(1)	(1)						
Montgomery, Ala.					1	1	(1)	(1)	(1)
Nashville, Tenn.		1	9	13	15	18	23	27	21
Newark, N. J.									29
New Orleans, La.		4	5	7	4	3	3	2	2
New York, N. Y.	179	94	83	271	291	158	221	143	75

[1] Less than 500

TABLE 529.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915–1923*—Continued.

LOCAL SLAUGHTER—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
North Salk Lake, Utah		13	46	26	17	15	67	20	19
Ogden, Utah		8	43	24	17	14	8	8	7
Oklahoma, Okla	39	72	27	14	8	5	12	12	4
Omaha, Nebr	1,899	1,870	1,378	1,433	1,639	1,417	1,626	1,440	1,682
Pasco, Wash				(1)	(1)				
Peoria, Ill	1	1	1	1	1	2	3	1	1
Philadelphia, Pa			170	220	286	343	446	345	244
Pittsburgh, Pa	56	111	85	95	103	125	148	117	117
Portland, Oreg	146	112	87	77	109	104	151	95	104
Richmond, Va	6	2	4	5	6	7	10	9	8
Roanoke, Va									(1)
St. Joseph, Mo	615	624	472	580	706	615	730	576	754
St. Louis, Mo	16	18	11	8					
St. Paul, Minn	181	152	118	176	251	300	316	319	253
San Antonio, Tex			9	1	1	2	2	4	2
Seattle, Wash		20	9	52	101	90	91	69	83
Sioux City, Iowa	210	216	170	210	282	199	191	153	136
Sioux Falls, S. Dak			(1)	(1)	(1)	2	1	(1)	(1)
Spokane, Wash	1	1	4	9	13	16	26	11	(1)
Springfield, Ohio									
Tacoma, Wash		12	28	24	37	37	55	40	
Toledo, Ohio		3	3	2	4	2	3	3	1
Washington, D. C		15	6	8	20	27	34	20	17
Wichita, Kans	19	4	2	4	6	5	6	13	17
Total	10,254	11,228	9,142	10,266	12,646	10,981	12,858	10,669	10,271

STOCKER AND FEEDER SHIPMENTS.

Amarillo, Tex		17	79	50	116	86	23	23	62
Atlanta, Ga					(1)		(1)	(1)	1
Augusta, Ga					(1)	(1)	(1)	(1)	
Baltimore, Md		2	1	1	2	1	(1)	1	1
Billings, Mont			6	14	17	9			
Birmingham, Ala		1	1		(1)				
Buffalo, N. Y		14	18	21	14	23	4	3	2
Chattanooga, Tenn				1	1	(1)			
Chicago, Ill		467	634	968	1,106	899	521	688	682
Cincinnati, Ohio		5	1	5	8	8	13	15	15
Cleveland, Ohio			1	3	4	(1)	4	7	4
Denver, Colo		741	1,030	921	1,290	1,349	643	1,088	1,068
Detroit, Mich		5	5	3	8	20	14	12	12
East St. Louis, Ill		36	48	48	70	60	33	50	51
El Paso, Tex			104	43	189	95	21	30	37
Evansville, Ind			(1)	(1)	(1)	(1)	(1)	(1)	(1)
Fort Wayne, Ind									(1)
Fort Worth, Tex		72	127	111	164	71	80	136	39
Fostoria, Ohio				(1)	(1)	1	1	(1)	1
Indianapolis, Ind			4	5		5	10	9	5
Jacksonville, Fla		(1)		(1)	1	1		(1)	
Kansas City, Mo		460	510	602	672	474	324	385	407
Knoxville, Tenn			2	1	1	(1)		2	
Lafayette, Ind		(1)	(1)	1	1	1	1	1	1
Laredo, Tex									(1)
Logansport, Ind				(1)	(1)	(1)	(1)	(1)	(1)
Los Angeles, Calif									4
Louisville, Ky				27	31	20	25	34	34
Marion, Ohio				(1)	2	1	1	2	2
Memphis, Tenn		(1)					(1)	(1)	(1)
Milwaukee, Wis		1	1	4	1	1			
Mobile, Ala			(1)						
Montgomery, Ala				(1)	(1)	1	(1)	(1)	(1)
Nashville, Tenn		5	3	2	19	6	4	4	2
Nebraska City, Nebr				(1)	1	(1)			

[1] Less than 500.

TABLE 529.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stock yards, calendar years, 1915–1923*—Continued.

STOCKER AND FEEDER SHIPMENTS—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Newark, N. J.									(1)
New Brighton, Minn.		4	4		33	3	75	46	
New Orleans, La.			(1)	2	1	1	1	1	1
North Salt Lake, Utah		47	159	215	277	211	142	276	234
Ogden, Utah			1	41	171	133	197	281	360
Oklahoma, Okla.		24	13	6	6	3	2	3	3
Omaha, Nebr.		1,026	1,302	1,592	1,787	1,124	676	757	889
Pasco, Wash.				59	131	63			
Peoria, Ill.				(1)	1	1	4	1	3
Portland, Oreg.		15	27	18	27	40	13	7	5
Pueblo, Colo.				20	(1)	1	(1)	3	212
Richmond, Va.		1	1	1	2	1	1	1	1
St. Joseph, Mo.		97	124	126	200	142	107	113	150
St. Paul, Minn.		140	92	109	201	113	78	66	91
San Antonio, Tex.		9	1	17	46	33	5	38	7
Sioux City, Iowa		87	62	129	272	90	64	45	42
Sioux Falls, S. Dak.			(1)	(1)	28	1	(1)	(1)	1
Spokane, Wash.			16	24	35	75	12	22	12
Tacoma, Wash.				2	1	2	(1)	(1)	
Toledo, Ohio					(1)	3	(1)	(1)	
Wichita, Kans.		1	11	16	19	3	2	17	37
Total		3,277	4,448	5,208	6,956	5,180	3,095	4,167	4,478

Division of Statistical and Historical Research. Compiled from reports made by stockyards to the Livestock, Meats and Wool Division.

[1] Less than 500.

TABLE 530.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923.*

Stockyard.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Buffalo, N. Y.:													
Receipts	133	102	107	125	88	39	45	62	85	123	152	165	1,226
Local slaughter	15	11	12	16	15	6	13	14	15	17	14	13	161
Stocker and feeder shipments								1	(1)	1	(1)		2
Chicago, Ill.:													
Receipts	258	283	315	338	261	200	290	365	478	539	325	346	4,096
Local slaughter	243	188	212	238	204	189	237	228	227	266	217	235	2,684
Stocker and feeder shipments	24	25	21	11	5	7	23	81	186	203	62	34	682
Cincinnati, Ohio:													
Receipts	3	2	3	3	33	83	70	83	30	20	9	6	345
Local slaughter	3	2	2	3	10	5	9	10	3	7	4	4	62
Stocker and feeder shipments	(1)					1	1	6	6	1	(1)		15
Cleveland, Ohio:													
Receipts	24	15	16	32	24	16	21	22	36	34	46	47	333
Local slaughter	16	13	13	18	16	14	15	18	18	16	8	21	186
Stocker and feeder shipments						(1)	(1)	(1)	2	1	1	(1)	4
Denver, Colo.:													
Receipts	128	101	121	114	62	20	53	48	221	707	219	63	1,857
Local slaughter	16	19	20	19	14	8	10	10	10	19	13	11	169
Stocker and feeder shipments	54	24	20	10	9	3	29	11	127	538	213	30	1,068
East St. Louis, Mo.:													
Receipts	32	19	24	20	54	92	79	60	60	53	34	34	561
Local slaughter	18	14	17	12	39	68	56	40	27	27	18	18	354
Stocker and feeder shipments	(1)	1	(1)		(1)	2	8	5	20	10	3	2	51

[1] Less than 500.

TABLE 530.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923*—Continued.

Stockyard.	Jan	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Fort Worth, Tex.:													
Receipts	12	6	8	16	86	42	61	26	53	38	27	11	386
Local slaughter	5	5	6	11	40	23	23	9	9	12	10	2	155
Stocker and feeder shipments	2	(1)	(1)	1	4	3	5	5	8	6	2	3	39
Indianapolis, Ind.:													
Receipts	7	3	2	2	5	16	15	16	20	21	9	8	124
Local slaughter	5	1	1	1	3	9	7	10	8	7	5	4	61
Stocker and feeder shipments	(1)	(1)	(1)	(1)	(1)	1	1	1	1	1	(1)	(1)	5
Jersey City, N. J.:													
Receipts	81	55	57	68	88	145	166	193	118	117	98	90	1,276
Local slaughter	81	55	57	68	88	145	166	193	118	117	98	90	1,276
Stocker and feeder shipments													
Kansas City, Mo.:													
Receipts	146	112	140	127	148	119	128	118	219	215	90	109	1,671
Local slaughter	108	84	106	113	108	86	91	73	95	104	54	79	1,101
Stocker and feeder shipments	27	23	17	8	23	24	21	37	98	81	28	20	407
Oklahoma, Okla.:													
Receipts	1	1	(1)	(1)	(1)	1	1	1	1	(1)	(1)	3	9
Local slaughter	1	1	(1)	(1)	(1)	1	1	(1)	(1)	(1)	(1)	(1)	4
Stocker and feeder shipments												3	3
Omaha, Nebr.:													
Receipts	247	251	256	205	209	118	215	204	422	424	163	196	2,970
Local slaughter	179	139	176	168	168	94	133	112	148	134	106	134	1,682
Stocker and feeder shipments	25	38	19	15	23	21	46	125	257	252	49	19	889
Pittsburgh, Pa.:													
Receipts	63	54	62	82	92	121	139	131	88	75	57	78	1,045
Local slaughter	8	6	6	11	12	10	12	12	10	12	10	9	118
Stocker and feeder shipments													
St. Joseph, Mo.:													
Receipts	101	110	121	92	77	61	57	51	72	100	65	72	979
Local slaughter	82	82	94	80	66	49	47	37	43	62	49	63	754
Stocker and feeder shipments	7	6	7	8	9	10	8	14	26	36	12	7	150
St. Paul, Minn.:													
Receipts	37	18	16	9	5	5	17	27	73	134	83	30	454
Local slaughter	23	12	13	8	5	5	12	22	38	50	42	23	253
Stocker and feeder shipments	4	2	2	(1)	(1)	(1)	1	3	10	43	22	4	91
Sioux City, Iowa:													
Receipts	25	16	14	11	4	3	6	9	17	53	34	24	216
Local slaughter	20	13	12	7	3	3	5	4	10	15	24	20	136
Stocker and feeder shipments	2	3	(1)	(1)	(1)	(1)	1	1	1	26	6	2	42

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.

[1] Less than 500.

TABLE 531.—*Sheep: Shipments of feeder sheep from public stockyards, 1923.*

ORIGIN.

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Chicago, Ill	29,361	24,367	20,809	10,850	4,330	5,847
Denver, Colo	36,831	20,197	9,020	4,495	6,610	2,399
Fort Worth, Tex	2,291	290	124	1,344	4,064	1,966
Kansas City, Kans	16,364	13,857	5,095	2,380	11,499	9,745
Louisville, Ky					1,390	5,529
National Stock Yards, Ill	494	280	122		203	1,637
Omaha, Nebr	20,468	30,660	18,655	14,585	21,101	18,420
Sioux City, Iowa	1,954	1,304	150	16	23	646
South St. Joseph, Mo	1,722	825	1,220	565	1,798	2,501
South St. Paul, Minn	2,770	2,258	1,926			125
All other	2,704	1,025	507	612	1,574	2,182
Total	114,949	95,003	57,628	34,847	52,582	51,010

TABLE 531.—*Sheep: Shipments of feeder sheep from public stockyards, 1923*—Continued.

ORIGIN—Continued.

Market.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Chicago, Ill.	25,040	83,368	186,428	189,772	63,561	39,547	683,280
Denver, Colo.	21,906	12,903	119,815	564,409	173,227	29,906	1,001,718
Fort Worth, Tex.	5,114	4,461	8,403	5,814	2,017	3,380	30,258
Kansas City, Kans.	14,772	27,210	70,583	70,170	20,171	19,471	231,318
Louisville, Ky.	10,602	11,786	3,843	934		6	34,090
National Stock Yards, Ill.	6,123	3,603	2,517	1,823	562	424	17,778
Omaha, Nebr.	43,319	121,077	247,383	243,404	57,745	26,201	862,968
Sioux City, Iowa.	623	847	7,141	28,690	4,777	2,038	48,211
South St. Joseph, Mo.	5,396	9,426	13,082	16,135	4,993	2,955	60,618
South St. Paul, Minn.	269	1,619	6,111	35,047	19,349	3,553	73,027
All other	4,135	6,987	27,048	14,517	9,242	3,810	74,343
Total	137,299	283,287	692,354	1,170,715	355,644	131,291	3,176,609

DESTINATION.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Colorado	25,556	8,961	3,877	4,016	5,087	2,097
Illinois	6,874	5,243	1,759	4,366	1,128	2,403
Indiana	977	1,505	607	1,008	10	2,234
Iowa	6,934	7,731	2,698	797	4,648	6,927
Kansas	3,639	3,726	2,383	1,246	4,856	704
Kentucky					1,770	5,156
Michigan	21,769	17,597	13,914	2,995	3,601	3,556
Minnesota	313	787	463			167
Missouri	6,559	4,952	914	422	3,253	5,281
Nebraska	34,989	40,978	21,737	15,560	23,996	17,352
Ohio	801	1,556	1,085	250	303	769
South Dakota	134	172	397			3
Texas	1,503	15	124	1,344	2,392	1,816
Wisconsin	2,314	678	5,922	2,320	200	385
All other	2,587	1,102	1,748	523	1,338	2,160
Total	114,949	95,003	57,628	34,847	52,582	51,010

State.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Colorado	21,599	4,668	77,051	398,695	148,522	27,207	727,336
Illinois	9,776	40,637	91,323	66,143	19,282	7,181	256,065
Indiana	7,327	39,322	53,231	36,517	5,876	1,409	150,083
Iowa	20,632	66,212	132,544	129,846	19,722	5,965	404,656
Kansas	4,788	9,661	27,195	36,280	11,876	13,726	120,080
Kentucky	11,496	13,329	5,480	1,571		6	38,808
Michigan	16,172	21,216	66,086	96,066	32,041	17,979	313,592
Minnesota	1,615	1,259	5,705	10,409	9,542	1,393	31,553
Missouri	13,108	25,952	68,953	44,466	7,127	9,113	190,100
Nebraska	19,743	46,199	124,699	291,844	72,863	26,363	736,323
Ohio	2,126	5,888	18,605	15,516	3,749	1,036	51,684
South Dakota		3,349	2,655	3,741	1,376	1,658	13,485
Texas	2,910	590	1,508	1,311	1,283	1,370	16,166
Wisconsin	760	728	1,151	12,512	4,786	8,619	40,375
All other	5,247	4,277	15,508	26,798	17,599	8,256	86,203
Total	137,299	283,287	692,354	1,170,715	355,644	131,291	3,176,609

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

TABLE 532.—*Sheep: Imports, exports, and prices, 1895–1923.*

Year ending June 30.	Imports.			Exports.		
	Number.	Value.	Average import price.	Number.	Value.	Average export price.
1895–1899	351,602	$972,444	$2.77	296,882	$1,861,231	$6.27
1900–1904	303,900	1,082,047	3.56	252,138	1,525,800	6.05
1905–1909	195,983	886,150	4.52	143,011	839,219	5.87
1909–10	126,152	696,879	5.52	44,517	209,000	4.69
1910–11	53,455	377,625	7.06	121,491	636,272	5.24
1911–12	23,588	157,257	6.67	157,263	626,985	3.99
1912–13	15,428	90,021	5.83	187,132	605,725	3.24
1913–14	223,719	532,404	2.38	152,600	534,543	3.50
1914–15	153,317	533,967	3.48	47,213	182,278	3.86
1915–16	235,659	917,502	3.89	52,278	231,535	4.43
1916–17	160,422	856,645	5.34	58,811	367,935	6.26
1917–18	177,681	1,979,746	11.14	7,959	97,028	12.19
1918–19	163,283	1,914,473	11.72	16,117	187,347	11.62
1919–20	199,549	2,279,949	11.43	59,155	711,549	12.03
1920–21	161,292	1,541,793	9.56	80,723	532,510	6.60
1921–22	96,086	514,424	5.35	62,354	294,442	4.72
1922–23	82,903	542,406	6.54	15,791	164,695	10.43

Division of Statistical and Historical Research.

TABLE 533.—*Live sheep: Exports and imports, United States, by months, 1910–1924.*

IMPORTS.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
1909–10	765	8,683	33,002	32,896	29,604	15,072	1,014	403	2,014	1,415	978	306	126,152
1910–11	1,885	6,715	8,287	21,401	11,559	224	89	90	6	860	1,976	363	53,455
1911–12	86	2,650	2,241	5,779	8,042	881	33	9	7	131	2,390	1,339	23,588
1912–13	37	413	1,648	3,466	5,077	792	95	13	782	2	2,769	334	15,428
1913–14	457	1,173	960	26,035	46,995	36,073	15,485	871	13,995	73,169	5,834	2,672	223,719
1914–15	4,403	15,464	18,915	13,680	15,375	20,132	7,223	53,747	33	1,340	748	2,257	153,317
1915–16	12,377	23,637	19,683	86,765	53,253	15,458	2,530	193	3,884	5,785	5,632	6,462	235,659
1916–17	4,731	8,625	48,650	23,755	13,835	1,640	8,446	42,880	3,193	885	2,258	1,524	160,422
1917–18	1,439	6,980	51,421	38,540	38,436	6,859	1,423	7,085	13,200	1,899	8,512	6,887	177,681
1918–19	672	4,691	20,274	32,105	36,453	22,002	10,684	8,103	5,146	12,203	10,631	319	163,283
1919–20	1,039	15,092	27,557	77,705	37,448	18,847	8,611	3,263	5,247	1,763	1,114	1,863	199,549
1920–21	1,633	15,835	37,534	39,687	36,689	19,666	5,232	261	1,241	1,234	416	1,864	161,292
1921–22	856	10,075	31,938	18,607	11,380	1,483	7,538	3,499	5,537	2,375	2,034	1,064	96,386
1922–23	1,415	12,714	22,160	31,096	4,512	1,164	5,347	447	12	2,599	1,478	15	82,959
1923–24	2,021	3,428	3,774	11,023	8,690	102							

EXPORTS.

1909–10	5,584	4,603	8,372	6,818	3,221	4,184	1,550	1,289	452	957	790	6,697	44,517
1910–11	6,532	4,080	3,987	11,863	10,666	3,825	7,458	8,504	15,452	15,738	20,537	12,899	121,491
1911–12	12,964	10,542	21,312	15,281	14,524	21,838	12,039	12,359	7,820	9,643	6,234	12,678	157,263
1912–13	10,786	25,601	24,202	20,090	18,589	31,823	7,645	9,437	5,906	9,774	10,152	13,037	187,132
1913–14	16,537	6,475	15,795	27,843	19,050	28,760	4,263	5,803	4,940	5,462	8,173	9,499	152,600
1914–15	8,632	9,300	7,216	8,531	6,172	236	206	125	1,130	531	2,485	2,649	47,213
1915–16	4,076	5,449	2,987	10,518	6,919	3,420	541	4,981	1,500	519	6,969	4,393	52,278
1916–17	3,152	4,833	3,281	14,400	6,913	3,577	1,253	703	309	8,226	10,333	1,831	58,811
1917–18	570	1,103	334	423	266	5,008	6	48	6	11	96	88	7,959
1918–19	6,196	108	39	889	75	400	30	12	153	4,595	3,406	214	16,117
1919–20	6,557	1,695	5,934	5,075	6,653	207	149	13,320	4,034	147	426	14,958	59,155
1920–21	890	246	3,407	2,558	1,806	6,937	4,059	8,486	4,005	14,749	10,098	23,482	80,723
1921–22	15,744	16,605	8,737	6,244	3,031	2,156	174	1,952	770	2,414	1,320	3,207	62,354
1922–23	3,387	1,862	1,136	575	546	109	131	53	783	3,942	1,727	1,820	15,791
1923–24	2,305	1,980	484	818	141	2,695							

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

TABLE 534.—*Sheep: Farm price per 100 pounds, 15th of month, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted av.
1910	$5.63	$5.09	$5.64	$6.10	$5.79	$5.44	$5.47	$4.68	$4.81	$4.68	$4.63	$4.54	$5.24
1911	4.47	4.34	4.45	4.55	4.51	4.24	4.19	3.98	3.91	3.68	3.65	3.71	4.16
1912	3.89	4.01	4.12	4.57	4.74	4.52	4.21	4.26	4.11	4.19	4.05	4.21	4.24
1913	4.35	4.63	4.97	5.16	4.91	4.84	4.20	4.32	4.23	4.16	4.27	4.46	4.55
Av. 1910–1913	4.58	4.52	4.80	5.10	4.99	4.76	4.52	4.31	4.26	4.18	4.15	4.23	4.55
1914	4.67	4.67	4.77	4.96	4.87	4.70	4.75	4.87	4.80	4.81	4.68	4.95	4.79
1915	4.95	5.14	5.36	5.60	5.54	5.43	5.35	5.16	5.06	5.18	5.18	5.38	5.27
1916	5.52	5.90	6.35	6.61	6.66	6.54	6.33	6.22	6.25	6.20	6.41	6.77	6.29
1917	7.33	8.17	9.21	9.69	10.15	9.84	9.32	9.33	10.05	10.24	10.20	10.44	9.45
1918	10.55	10.75	11.41	11.98	12.32	11.56	11.04	10.99	10.79	10.35	10.11	9.46	10.96
1919	9.68	9.95	10.45	11.33	10.93	10.34	9.25	9.06	8.69	8.46	8.35	8.53	9.63
1920	9.34	9.97	10.25	10.66	10.34	9.13	8.21	7.54	7.24	6.62	6.20	5.54	8.51
Av. 1914–1920	7.43	7.79	8.26	8.69	8.69	8.22	7.75	7.60	7.55	7.41	7.30	7.30	7.84
1921	5.30	5.01	5.27	5.11	5.11	4.74	4.34	4.38	4.11	3.96	3.84	4.10	4.65
1922	4.57	5.71	6.51	6.43	6.65	6.09	6.11	5.96	5.70	5.93	6.02	6.27	5.96
1923	6.88	6.83	7.06	7.20	6.92	6.43	6.43	6.22	6.57	6.33	6.20	6.39	6.65

Division of Crop and Livestock Estimates.

TABLE 535.—*Lambs: Farm price per 100 pounds, 15th of month, United States, 1910–1923.*

Year beginning June 1.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Weighted av.
1910–11	$7.13	$6.71	$5.70	$5.85	$5.78	$5.54	$5.60	$5.71	$5.44	$5.49	$5.77	$5.74	$5.68
1911–12	5.51	5.42	5.29	5.02	4.68	4.66	4.93	5.22	5.15	5.38	5.98	6.16	5.33
1912–13	6.02	5.74	5.60	5.49	5.42	5.37	5.70	6.03	6.34	6.56	6.59	6.66	5.99
1913–14	6.36	6.05	5.50	5.51	5.51	5.64	5.85	6.16	6.18	6.31	6.47	6.49	6.05
Av. 1910–1913	6.26	5.98	5.52	5.47	5.35	5.31	5.52	5.78	5.78	5.94	6.20	6.26	5.75
1914–15	6.47	6.55	6.26	6.27	6.09	6.14	6.33	6.47	6.67	6.06	7.35	7.32	6.57
1915–16	7.26	7.21	6.70	6.71	6.70	6.76	7.02	7.29	7.78	8.10	8.58	8.49	7.49
1916–17	8.36	8.16	8.15	8.22	8.02	8.41	8.72	9.59	10.51	11.46	12.06	12.51	9.93
1917–18	12.64	11.19	12.08	13.06	14.09	13.79	13.81	13.83	13.77	14.11	15.34	15.39	13.84
1918–19	14.98	14.20	14.20	13.73	13.20	12.54	12.44	12.71	13.17	14.03	14.61	14.24	13.54
1919–20	13.89	13.09	12.91	12.25	11.47	11.45	11.85	12.91	14.08	14.17	14.63	14.26	12.94
1920–21	12.82	11.79	10.84	10.31	9.65	9.37	8.46	8.44	7.76	7.90	7.55	7.78	8.88
Av. 1914–1920	10.92	10.31	10.16	10.08	9.89	9.78	9.80	10.18	10.53	10.83	11.44	11.44	10.46
1921–22	7.59	7.37	6.99	6.27	5.98	6.12	6.60	7.33	8.87	10.21	10.54	10.39	8.66
1922–23	9.87	9.55	9.39	9.43	10.06	10.30	10.49	10.69	10.83	11.01	10.69	11.00	10.38
1923–24	10.72	10.60	9.96	10.28	10.17	10.01	10.19						

Division of Crop and Livestock Estimates.

TABLE 536.—*Farm prices of sheep, per head, by ages, United States, Jan. 1, 1912–1924.*

Jan. 1.	Under 1 year old.	Ewes 1 year and over.	Wethers 1 year and over.	Rams.	Jan. 1.	Under year 1 old.	Ewes 1 year and over.	Wethers 1 year and over.	Rams.
1912	$2.64	$3.45	$3.43	$3.26	1919	$8.82	$12.44	$11.02	$21.90
1913	3.11	3.98	3.93	3.80	1920	8.06	11.03	9.60	21.63
1914	3.22	4.09	4.06	3.49	1921	5.34	6.37	5.93	15.10
1915	3.62	4.59	4.46	9.01	1922	4.24	4.84	4.07	11.37
1916	4.15	5.35	5.02	10.32	1923	6.66	7.69	6.06	14.23
1917	5.63	7.48	6.78	13.62	1924	6.89	8.08	5.95	15.49
1918	9.06	12.70	11.26	20.84					

Division of Crop and Livestock Estimates.

Table 537.—*Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1923.*

SHEEP.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	6.40	6.30	6.50	6.50	7.60	7.00	6.60	7.50	6.00	6.10	6.00	5.40	6.49
New Hampshire	.....	6.70	6.50	7.00	7.00	7.50	8.20	6.70	5.00	6.50	.....	6.80	6.79
Vermont	5.80	5.00	4.90	6.40	6.00	5.60	5.00	4.70	5.10	5.70	5.00	5.00	5.35
Massachusetts	.....	8.80	8.50	6.00	5.60	.....	6.20	5.70	7.00	7.00	6.50	6.60	6.79
Rhode Island	6.00	.....	5.50	5.50	6.50	6.50	8.00	.....	5.50	5.50	.....	.....	6.12
New York	5.60	6.00	5.20	6.00	5.50	5.20	5.80	5.20	5.00	5.40	5.60	6.00	5.54
New Jersey	.....	.....	.....	.....	.....	.....	.....	6.00	.....	.....	.....	.....	.....
Pennsylvania	6.50	6.70	6.10	6.20	6.40	6.20	5.80	6.00	6.60	6.80	6.50	6.10	6.32
Delaware	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.60	6.50	.....
Maryland	5.40	5.90	5.20	5.10	5.00	.....	4.50	4.60	5.30	5.70	5.80	5.00	5.24
Virginia	5.40	5.20	5.80	6.50	6.60	5.20	5.90	5.20	5.70	6.00	5.80	5.00	5.58
West Virginia	5.50	5.50	6.40	6.00	6.00	5.50	5.70	5.60	6.20	5.50	6.20	5.50	5.88
North Carolina	6.70	6.70	5.60	5.20	6.80	6.20	5.60	6.40	6.20	7.80	7.00	6.10	6.32
South Carolina	7.00	6.50	7.20	7.50	7.00	7.00	8.30	8.40	6.50	7.20	6.70	7.90	7.27
Georgia	6.10	5.60	6.00	5.20	6.00	7.50	6.70	5.90	5.60	6.50	5.50	5.50	6.01
Florida	6.00	5.10	5.50	5.60	5.80	5.30	5.50	6.00	.....	6.00	6.00	5.50	5.66
Ohio	6.10	6.00	6.10	5.90	5.80	5.30	5.10	5.30	5.20	5.80	5.50	5.60	5.64
Indiana	4.50	4.80	4.90	5.10	5.10	4.50	4.00	4.20	4.80	4.80	4.50	4.80	4.67
Illinois	5.70	5.40	6.00	5.70	5.70	5.00	5.20	4.70	5.90	5.40	5.40	5.70	5.48
Michigan	6.50	7.10	6.60	6.90	6.00	6.20	5.60	5.60	5.60	6.10	5.30	5.40	6.08
Wisconsin	5.50	5.70	6.00	6.00	5.50	4.90	5.00	4.70	4.90	5.00	4.50	4.60	5.16
Minnesota	6.00	6.10	6.10	6.40	6.50	6.10	5.30	5.80	5.80	5.40	5.10	5.70	5.87
Iowa	6.40	6.40	6.50	6.50	5.90	6.40	6.10	5.60	5.80	6.70	6.30	6.50	6.26
Missouri	6.00	5.90	6.40	6.20	6.30	5.40	5.00	5.10	5.20	5.10	5.00	5.20	5.57
North Dakota	5.70	6.00	6.30	6.80	6.70	6.00	6.00	5.40	5.70	5.60	6.00	5.70	5.99
South Dakota	6.10	7.10	6.80	7.60	7.50	5.80	6.00	6.00	6.10	6.40	5.90	6.70	6.50
Nebraska	6.60	8.00	8.00	7.10	7.70	6.90	6.00	7.00	7.60	7.90	6.70	6.90	7.12
Kansas	6.90	7.40	6.80	6.60	7.00	6.90	6.80	7.00	7.00	6.00	5.50	6.10	6.58
Kentucky	4.60	4.90	5.30	4.70	5.00	4.50	4.40	4.30	5.00	4.70	5.00	4.50	4.74
Tennessee	5.10	4.80	5.30	5.60	5.70	4.70	4.70	4.70	4.90	4.40	5.20	4.40	4.96
Alabama	6.00	7.00	6.60	6.80	7.10	6.30	6.30	6.00	6.30	6.50	5.50	6.00	6.37
Mississippi	4.60	4.70	4.50	4.30	4.90	4.60	4.10	4.20	4.10	5.00	4.00	3.50	4.38
Louisiana	.....	6.30	.....	.....	.....	.....	7.30	.....	.....	4.30	.....	5.30	5.80
Texas	6.50	5.30	6.10	6.80	6.40	6.10	6.60	6.00	6.20	5.60	6.60	6.00	6.18
Oklahoma	.....	.....	.....	.....	.....	.....	5.00	.....	.....	6.90	5.80	6.00	5.92
Arkansas	5.80	4.80	4.30	5.20	5.10	4.20	4.00	3.30	4.50	4.90	4.10	4.30	4.54
Montana	7.40	7.40	7.50	7.50	7.90	6.00	6.70	7.30	7.40	7.90	6.30	7.20	7.21
Wyoming	8.00	7.50	.....	8.20	9.00	7.50	8.00	7.50	7.00	6.00	6.00	7.50	7.47
Colorado	7.20	8.10	7.80	8.20	7.70	8.00	7.00	6.40	7.30	7.30	6.70	6.90	7.38
New Mexico	8.00	7.50	8.30	8.70	.....	7.00	7.70	7.00	7.80	6.00	.....	6.50	7.45
Arizona	.....	.....	.....	.....	6.70	.....	8.30	.....	7.00	8.10	7.00	7.50	7.43
Utah	7.00	7.60	8.40	7.50	7.30	7.30	6.70	6.60	7.20	6.70	7.40	7.50	7.27
Nevada	.....	6.60	5.50	.....	8.00	.....	5.50	.....	.....	5.00	.....	7.70	6.38
Idaho	7.50	6.90	7.70	8.00	6.60	6.50	6.90	6.00	6.30	6.30	5.70	5.60	6.67
Washington	7.00	6.70	7.30	7.60	6.80	6.90	6.40	6.30	6.10	6.90	6.70	6.30	6.75
Oregon	8.00	7.20	7.60	7.60	7.00	7.10	6.30	6.00	7.70	7.00	6.70	6.50	7.06
California	7.80	8.40	9.00	8.00	7.70	7.00	7.20	7.70	7.50	6.90	6.80	7.30	7.61
United States	6.88	6.83	7.06	7.20	6.92	6.43	6.43	6.22	6.57	6.33	6.20	6.39	6.62

LAMBS.

Maine	10.50	9.90	10.00	10.30	10.00	11.10	13.00	11.60	11.30	11.00	10.50	11.00	10.85
New Hampshire	.....	11.50	12.00	11.60	12.00	13.00	15.20	12.70	10.50	12.00	.....	11.20	12.17
Vermont	11.00	10.60	10.00	11.40	10.10	10.30	10.50	9.70	10.00	10.00	10.10	9.90	10.30
Massachusetts	.....	11.00	.....	9.30	8.30	.....	10.90	11.70	10.30	11.60	11.00	10.00	10.46
Rhode Island	12.60	.....	12.00	12.50	12.00	14.00	13.50	.....	12.00	12.00	.....	12.00	12.44
Connecticut	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.30	.....	11.00	.....
New York	11.00	12.10	11.60	12.20	11.80	12.50	14.30	11.00	11.00	11.30	11.10	11.10	11.74
Pennsylvania	11.20	11.20	10.90	10.80	11.70	11.20	10.80	10.50	11.00	11.50	10.30	10.10	10.93
Delaware	.....	.....	.....	.....	.....	.....	.....	.....	10.00	.....	11 10	13.50	.....
Maryland	11.50	12.00	12.30	13.70	12.50	.....	11.60	10.80	11.50	11.10	11.70	12.00	11.88
Virginia	10.00	10.30	11.50	12.10	12.70	11.40	11.20	10.30	10.90	10.20	10.70	9.80	10.92
West Virginia	10.00	11.00	12.00	11.40	11.30	11.00	10.60	10.00	9.90	9.90	9.80	9.90	10.57
North Carolina	8.10	8.00	7.70	8.20	8.70	8.00	8.90	8.60	9.20	8.80	8.20	8.00	8.42
South Carolina	8.00	8.50	9.00	10.00	9.10	10.00	9.10	9.10	8.00	9.30	8.00	8.50	8.88

TABLE 537.—*Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1923*—Continued.

LAMBS—Continued.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Georgia	7.50	7.60	8.00	7.30	7.10	10.00	8.80	7.80	7.30	9.00	6.50	7.00	7.82
Florida	7.00	----	6.00	6.50	6.50	6.00	6.00	6.30	----	6.60	7.10	----	6.44
Ohio	11.70	11.70	11.40	10.30	11.00	10.80	10.80	10.10	10.50	10.70	10.30	10.20	10.79
Indiana	11.00	10.80	10.70	11.40	11.50	9.70	10.70	9.80	10.20	10.30	9.70	10.00	10.48
Illinois	10.60	10.10	10.30	10.40	10.30	11.00	10.80	9.50	10.40	10.30	9.90	10.10	10.31
Michigan	12.00	12.20	12.30	11.20	11.20	12.00	11.50	11.20	11.50	11.30	10.50	10.80	11.48
Wisconsin	10.50	10.70	11.50	10.60	11.20	11.50	11.00	9.70	10.00	10.30	9.60	10.00	10.55
Minnesota	11.00	10.70	11.00	13.30	11.10	11.20	11.30	10.00	10.20	9.80	10.00	9.80	10.78
Iowa	11.00	11.70	10.80	10.90	11.00	12.00	10.90	10.00	10.70	10.50	10.40	10.50	10.87
Missouri	10.20	10.90	10.90	10.90	11.50	11.40	10.30	9.50	9.70	9.90	9.70	9.50	10.37
North Dakota	9.50	10.30	10.00	10.30	9.00	9.60	9.60	9.20	9.10	9.50	9.40	9.10	9.55
South Dakota	11.00	10.50	9.90	10.00	11.00	11.20	11.00	10.50	10.90	10.00	10.70	9.70	10.62
Nebraska	11.00	11.50	11.60	9.80	10.80	10.50	11.10	10.50	11.00	10.70	10.30	10.30	10.76
Kansas	11.50	11.00	11.00	10.80	11.80	10.40	11.50	10.20	9.90	9.60	9.50	9.50	10.56
Kentucky	9.30	9.50	10.20	10.70	11.70	11.90	10.70	9.40	9.40	8.90	9.70	9.00	10.03
Tennessee	8.40	8.30	9.00	10.60	10.20	9.70	9.00	8.80	8.60	7.40	8.50	8.00	8.88
Alabama	8.30	8.80	8.50	8.30	9.00	9.90	9.10	9.30	9.00	7.80	7.80	8.00	8.62
Mississippi	6.80	8.10	7.40	6.00	7.10	7.50	7.50	7.00	6.30	7.70	6.50	5.60	6.96
Louisiana	----	8.00	----	----	----	----	8.10	----	----	----	----	6.40	----
Texas	8.50	7.00	8.00	9.00	8.60	8.10	9.50	9.00	8.40	7.60	9.00	8.50	8.43
Oklahoma	----	----	----	----	----	----	----	----	----	9.20	7.60	8.00	----
Arkansas	6.30	6.50	7.40	7.00	7.70	6.60	7.20	6.80	6.00	6.80	6.00	6.50	6.73
Montana	9.60	10.80	10.60	10.20	11.00	10.50	10.20	9.40	9.90	10.50	9.50	10.20	10.20
Wyoming	11.20	11.20	----	11.30	11.70	11.70	11.60	10.20	10.50	10.50	10.80	10.60	11.03
Colorado	11.20	11.50	12.30	12.00	12.70	12.00	11.20	10.50	11.50	11.80	11.00	11.50	11.60
New Mexico	10.20	10.90	9.90	9.00	----	10.10	11.20	10.00	10.30	10.10	9.80	9.50	10.09
Arizona	----	----	----	----	11.70	----	11.30	10.70	11.20	10.70	9.50	10.50	10.80
Utah	11.80	11.30	11.40	10.60	10.80	10.20	10.60	9.50	10.50	9.90	10.40	10.60	10.63
Nevada	----	11.70	12.00	----	11.50	----	9.60	10.00	----	10.00	9.80	10.50	10.64
Idaho	10.70	9.80	10.40	10.30	9.90	10.00	9.80	9.00	9.50	9.00	8.80	9.00	9.68
Washington	9.40	10.00	10.50	11.00	10.30	10.00	9.50	9.40	9.10	9.50	9.50	9.60	9.82
Oregon	10.10	10.70	11.00	10.80	10.50	10.20	9.10	9.80	9.00	9.10	9.20	9.00	9.88
California	11.80	12.60	12.70	11.50	11.00	11.10	10.80	10.80	11.00	10.80	10.80	11.10	11.38
United States	10.69	10.83	11.01	10.69	11.00	10.72	10.60	9.96	10.28	10.17	10.01	10.10	10.50

Division of Crop and Livestock Estimates.

TABLE 538.—*Sheep and lambs, native and western: Monthly average price per 100 pounds, Chicago, 1901–1923.*

SHEEP.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1905	5.15	5.55	5.50	5.08	4.75	4.72	5.10	4.95	4.72	5.10	5.10	5.25	5.08
1906	5.40	5.12	5.28	5.35	5.55	5.45	5.25	4.98	5.15	4.90	5.05	5.08	5.21
1907	5.15	5.20	5.50	5.65	5.78	5.90	5.32	5.32	5.18	4.82	4.38	4.18	5.20
1908	4.82	5.00	5.82	5.68	5.25	4.70	4.10	4.00	3.72	4.08	4.15	4.32	4.64
1909	4.90	4.92	5.28	5.60	6.05	5.28	4.68	4.50	4.65	4.35	4.52	4.92	4.97
1910	5.55	6.50	7.60	7.60	6.55	5.10	4.20	4.20	4.25	3.95	3.70	3.90	5.26
1911	4.10	4.15	4.70	4.20	4.45	3.80	3.95	3.50	3.80	3.65	3.45	3.55	3.94
1912	4.30	4.15	5.30	5.90	6.15	4.50	4.25	4.05	4.15	4.00	4.05	4.45	4.60
1913	5.35	5.90	6.40	6.45	5.85	5.05	4.50	4.35	4.30	4.55	4.60	4.95	5.19
Av. 1909–1913	4.84	5.12	5.86	5.95	5.81	4.75	4.32	4.12	4.23	4.10	4.06	4.35	4.79
1914	5.50	5.70	5.95	6.25	5.65	5.10	5.40	5.55	5.30	5.30	5.65	5.40	5.56
1915	5.80	6.45	7.45	7.70	7.35	5.50	6.05	6.25	5.75	6.00	5.85	6.20	6.36
1916	7.20	7.75	8.25	8.15	8.20	7.35	7.25	7.35	7.30	7.50	8.00	9.00	7.82
1917	10.00	11.25	11.70	12.10	13.00	10.00	9.10	9.75	11.15	11.65	11.25	11.50	11.04
1918	12.20	12.35	13.60	15.65	14.75	13.40	12.65	13.15	11.80	10.45	9.85	9.40	12.44
1919	10.35	11.35	14.05	14.50	12.25	9.30	9.70	9.75	8.30	8.15	8.30	9.60	10.47
1920	11.80	13.35	13.40	14.25	12.25	8.50	8.90	7.70	6.85	6.45	5.75	4.70	9.49
Av. 1914–1920	8.98	9.74	10.63	11.23	10.49	8.45	8.44	8.50	8.14	7.93	7.81	7.97	9.03
1921	5.07	4.90	6.14	6.88	6.33	4.46	5.08	4.53	4.49	4.71	4.40	4.92	5.13
1922	7.26	8.28	9.17	9.33	7.35	5.59	6.12	5.63	6.05	6.25	7.48	7.28	7.15
1923	7.72	8.08	8.64	8.90	6.74	5.09	5.16	7.09	7.25	6.35	6.89	7.37	7.10

[1] Simple average of monthly average prices.

TABLE 538.—*Sheep and lambs, native and western: Monthly average price per 100 pounds, Chicago, 1901–1923*—Continued.

LAMBS.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1901	5.30	5.10	5.25	5.10	4.85	4.60	5.10	4.80	4.35	4.30	4.10	4.75	4.80
1902	5.55	6.05	6.15	6.30	6.20	5.80	5.55	5.35	4.85	4.70	4.55	4.80	5.49
1903	5.50	6.10	6.60	6.20	6.20	5.50	5.30	4.90	4.85	4.80	4.70	4.85	5.46
1904	5.55	5.40	5.30	5.60	5.70	5.60	6.15	5.45	5.15	5.15	5.50	6.25	5.57
1905	7.15	7.40	7.05	6.80	6.25	5.90	6.30	7.05	7.00	7.05	6.90	7.25	6.84
1906	7.25	6.75	6.40	6.20	6.65	6.75	6.90	7.00	7.15	6.95	6.90	7.10	6.83
1907	7.30	7.30	7.55	8.05	7.80	7.40	7.05	6.90	6.90	6.80	6.05	5.70	7.05
1908	6.80	6.70	7.20	7.25	6.65	5.75	6.20	6.05	5.35	5.50	5.85	6.70	6.33
1909	7.35	7.50	7.65	7.85	8.25	7.60	7.70	7.35	6.80	6.50	7.10	7.50	7.43
1910	8.30	8.65	9.40	9.10	8.40	7.60	7.10	6.70	6.80	6.65	6.25	6.10	7.59
1911	6.20	6.05	6.10	5.50	5.85	6.10	6.30	6.35	5.70	5.75	5.54	5.75	5.93
1912	6.50	6.15	7.30	7.95	8.30	6.90	7.25	7.40	7.00	6.75	7.15	7.75	7.18
1913	8.55	8.50	8.60	8.40	7.40	6.85	7.55	7.40	7.15	7.05	7.25	7.60	7.69
Av. 1909–1913	7.38	7.37	7.81	7.76	7.64	7.01	7.18	6.98	6.69	6.54	6.66	6.94	7.16
1914	7.90	7.60	7.65	7.60	8.10	7.95	8.45	8.15	7.80	7.60	8.75	8.30	7.99
1915	8.40	8.75	9.55	9.65	10.10	9.20	8.75	8.99	8.75	8.75	8.80	9.00	9.05
1916	10.30	10.90	11.10	10.45	10.75	9.55	10.55	10.75	10.60	10.15	11.40	12.70	10.77
1917	13.85	14.30	14.25	14.40	16.90	15.25	15.65	15.50	17.50	17.40	16.75	16.45	15.68
1918	17.20	16.60	17.55	19.20	18.00	16.85	18.50	17.50	17.25	15.35	15.10	14.60	16.98
1919	16.25	17.40	19.05	18.15	16.25	14.05	17.10	16.75	14.85	15.00	14.50	16.40	16.31
1920	19.50	19.95	18.80	18.80	17.40	14.25	15.55	13.20	13.30	12.35	11.53	10.96	15.47
Av. 1914–1920	13.34	13.64	13.99	14.04	13.93	12.44	13.51	12.96	12.86	12.37	12.40	12.63	13.18
1921	10.72	9.07	9.91	9.69	11.07	10.07	10.09	9.46	8.86	8.66	9.25	10.86	9.86
1922	12.67	14.49	15.39	14.10	12.95	12.42	13.04	12.51	13.53	13.94	14.17	14.93	13.68
1923	14.69	14.85	14.56	14.42	14.12	14.81	14.22	12.89	13.52	12.93	12.75	12.96	13.89

Division of Statistical and Historical Research. Figures prior to 1921 for sheep, and prior to Nov., 1920, for lambs, compiled from Chicago Drovers Journal Yearbook; subsequent figures from data of the reporting service of the Livestock, Meats and Wool Division.

[1] Simple average of monthly average prices.

TABLE 539.—*Sheep: Monthly average price per 100 pounds at six markets, 1923.*

CHICAGO.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Lambs:							
Medium to prime—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
84 pounds down	14.06	14.24	14.24	13.76	13.67	14.02	14.00
Culls and common	11.25	11.38	11.62	11.17	10.89	10.77	11.18
Spring lambs, medium to choice					15.85	14.96	
Yearling wethers, medium to prime	11.19	11.56	11.69	11.64	10.77	11.48	11.39
Wethers, medium to prime	8.47	8.74	9.28	9.38	7.74	6.42	8.34
Ewes—							
Medium to choice	6.79	7.05	7.74	8.10	6.27	4.96	6.82
Culls and common	4.75	4.94	5.28	5.40	3.51	2.64	4.42
Breeding ewes, full mouth to yearling							
Feeder lambs, medium to choice	13.89	14.34	14.20				

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars.* 13.54	*Dollars.* 12.07	*Dollars.* 12.86	*Dollars* 12.30	*Dollars.* 11.94	*Dollars.* 12.18	*Dollars.* 12.48
All weights, cull and common	9.98	9.51	10.33	9.90	9.84	10.00	9.93
Yearling wethers, medium-prime	10.92	9.73	9.92	9.70	9.62	9.75	9.94
Wethers (2 years old and over) medium-prime	6.56	7.32	7.30	7.23	7.16	7.48	7.18
Ewes, common-choice	5.13	6.04	5.44	5.21	5.44	6.01	5.54
Ewes, canner and cull	2.05	2.56	2.39	2.38	2.56	2.97	2.48
Feeding sheep and lambs:							
Feeding lambs, medium-choice	12.02	12.08	12.74	12.24	11.98	11.70	12.13

Classification of livestock changed July 1, 1923.

TABLE 539.—*Sheep: Monthly average price per 100 pounds at six markets, 1923*—Continued.

EAST ST. LOUIS.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Lambs:							
Medium to prime—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
84 pounds down	13.30	13.96	13.96	13.78	13.02	13.65	13.71
Culls and common	11.23	11.25	11.25	11.17	10.31	10.32	10.92
Spring lambs, medium to choice					15.25	14.56	
Medium to prime:							
Yearling wethers	10.71	11.35	11.25	11.25	10.03	10.31	10.90
Wethers	7.99	8.30	8.62	8.62	7.33	6.22	7.88
Ewes:							
Medium to choice	6.26	6.86	7.18	7.80	6.23	4.54	6.48
Culls and common	.37	4.00	4.08	4.35	3.18	2.35	3.54
Breeding ewes, full mouth to yearling							
Feeder lambs, medium to choice							

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars.* 13.00	*Dollars.* 11.63	*Dollars.* 12.10	*Dollars.* 11.85	*Dollars.* 11.68	*Dollars.* 11.88	*Dollars.* 12.02
All weights, cull and common	9.34	8.64	9.14	9.11	9.12	9.42	9.13
Yearling wethers, medium-prime	10.30	9.13	9.26	9.21	9.30	9.33	9.42
Wethers (2 years old and over) medium-prime	6.25	6.50	6.34	6.40	6.50	6.52	6.42
Ewes, common-choice	4.53	4.98	5.18	4.92	4.98	5.06	4.94
Ewes, canner and cull	2.03	2.19	2.29	2.25	2.25	2.32	2.22
Feeding sheep and lambs:							
Feeding lambs, medium-choice							

FORT WORTH.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Lambs:							
Medium to prime—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
84 pounds down	12.88	13.30	13.22	13.00		12.56	
Culls and common	10.00	10.14	10.09	10.00		9.50	
Spring lambs, medium to choice					11.86	12.12	
Medium to prime:							
Yearling wethers	9.73	9.64	10.24	10.75	8.54	8.96	9.66
Wethers	7.03	7.14	7.50	7.50	6.50	5.89	6.96
Ewes:							
Medium to choice	6.06	6.33	6.54	6.34	5.45	4.38	5.85
Culls and common	3.15	3.25	3.42	3.38	3.14	2.38	3.12
Breeding ewes, full mouth to yearling							
Feeder lambs, medium to choice	11.68	11.90	12.17	12.12			

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars.* 12.73	*Dollars.* 11.62	*Dollars.* 11.72	*Dollars.* 11.10			*Dollars.*
All weights, cull and common	9.61	9.15	9.20	8.91			
Yearling wethers, medium-prime	9.41	9.00	9.44	8.26	8.50	8.50	8.85
Wethers (2 years old and over) medium-prime	6.41	6.55	6.57	5.95	5.92	6.27	6.28
Ewes, common-choice	4.75	4.95	5.37	4.57	4.18	4.85	4.78
Ewes, canner and cull	2.56	2.64	2.79	2.21	1.88	2.03	2.35
Feeding sheep and lambs:							
Feeding lambs, medium-choice			10.41	8.78			

Classification of livestock changed July 1, 1923.

TABLE 539.—*Sheep: Monthly average price per 100 pounds at six markets, 1923*—Continued.

KANSAS CITY.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Lambs—							
Medium to prime—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
84 pounds down	13.78	13.78	13.66	13.56	13.07	13.86	13.62
Culls and common	11.01	11.14	11.14	11.12	10.48	10.38	10.88
Spring lambs, medium to choice						14.62	
Medium to prime:							
Yearling wethers	10.84	11.10	11.20	11.31	10.59	10.44	10.91
Wethers	7.62	7.92	8.63	9.36	7.53	6.42	7.91
Ewes:							
Medium to choice	6.40	6.88	7.72	8.24	6.27	4.56	6.68
Culls and common	3.47	3.96	4.64	5.12	3.48	2.26	3.82
Breeding ewes, full mouth to yearling							
Feeder lambs, medium to choice	13.28	13.52	13.30	12.98			

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars.* 13.03	*Dollars.* 11.82	*Dollars.* 12.18	*Dollars.* 11.91	*Dollars.* 11.86	*Dollars.* 11.66	*Dollars.* 12.08
All weights, cull and common	9.32	8.81	9.28	9.08	9.40	9.39	9.21
Yearling wethers, medium-prime	10.04	9.22	9.32	9.12	9.24	9.42	9.40
Wethers (2 years old and over) medium-prime	6.76	6.94	6.70	6.73	6.78	6.90	6.80
Ewes, common-choice	5.03	5.52	5.04	4.85	4.95	5.31	5.12
Ewes, canner and cull	2.23	2.33	2.29	2.22	2.28	2.50	2.31
Feeding sheep and lambs:							
Feeding lambs, medium-choice							

OMAHA.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Lambs:							
Medium to prime—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
84 pounds down	13.74	13.79	13.69	13.55	13.29	13.86	13.65
Culls and common	11.02	11.15	11.20	11.25	10.82	10.86	11.05
Spring lambs, medium to prime					15.50	15.00	
Medium to prime—							
Yearling wethers	10.83	11.00	11.34	11.37	10.35	10.98	10.98
Wethers	8.06	8.16	8.50	8.70	7.33	6.32	7.84
Ewes:							
Medium to choice	6.32	6.65	7.58	7.88	6.33	4.38	6.52
Culls and common	3.82	4.16	5.02	5.24	3.26	2.16	3.94
Breeding ewes, full mouth to yearling							
Feeder lambs, medium to choice	13.67	14.00	13.76	13.26			

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars.* 13.01	*Dollars.* 11.96	*Dollars.* 12.25	*Dollars.* 12.14	*Dollars.* 11.72	*Dollars.* 11.68	*Dollars.* 12.13
All weights, cull and common	9.70	9.23	9.81	9.94	9.64	9.56	9.65
Yearling wethers, medium-prime	10.66	9.45	9.38	9.07	9.17	9.55	9.55
Wethers (2 years old and over) medium-prime	6.06	6.70	6.88	6.89	7.01	7.18	6.79
Ewes, common-choice	4.62	5.35	4.66	4.69	5.05	5.70	5.01
Ewes, canner and cull	2.06	2.25	2.06	2.18	2.48	2.80	2.30
Feeding sheep and lambs:							
Feeding lambs, medium-choice	10.99	11.21	12.28	11.94	11.60	11.32	11.56

Classification of livestock changed July 1, 1923.

TABLE 539.—*Sheep: Monthly average price per 100 pounds at six markets, 1923*—Continued.

SOUTH ST. PAUL.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1–June 30.
Lambs:							
Medium to prime—	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
84 pounds down	13.44	13.53	13.53	13.23	12.87	13.06	13.28
Culls and common	10.91	10.72	10.84	10.85	9.72	9.84	10.48
Spring lambs, medium to choice							
Yearling wethers, medium to prime	10.74	10.82	10.94	10.77	9.91	10.57	10.62
Wethers, medium to prime	7.65	7.88	8.29	8.86	7.23	5.62	7.59
Ewes:							
Medium to choice	6.25	6.55	6.98	7.54	6.15	4.22	6.28
Culls and common	3.93	4.26	4.50	4.66	3.48	2.04	3.81
Breeding ewes, full mouth to yearling							
Feeder lambs, medium to choice							

Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1–Dec. 31.
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars.* 12.49	*Dollars.* 11.30	*Dollars.* 11.93	*Dollars.* 11.37	*Dollars.* 11.30	*Dollars.* 11.46	*Dollars.* 11.64
All weights, cull and common	9.38	8.86	9.40	9.16	9.12	9.21	9.19
Yearling wethers, medium-prime	10.27	9.10	9.08	8.73	8.85	9.00	9.17
Wethers (2 years old and over) medium-prime	5.52	6.50	6.56	6.51	6.68	6.78	6.42
Ewes, common-choice	4.34	5.29	4.76	4.47	4.67	5.27	4.80
Ewes, canner and cull	1.66	2.12	2.26	2.07	2.34	2.51	2.16
Feeding sheep and lambs:							
Feeding lambs, medium-choice				11.39	11.44	11.25	

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.
Classification of livestock changed July 1, 1923.

TABLE 540.—*Sheep and lambs: Trend of average farm prices and average market prices, per 100 pounds, at Chicago, 1910–1923.*

Calendar year.	Farm price.		Average market price at Chicago.		Price relatives (1913=100).			
					Farm price.		Market price.	
	Sheep, weighted average.	Lambs, simple average.	Sheep.	Lambs.	Sheep.	Lambs.	Sheep.	Lambs.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*				
1910	5.08	6.40	5.26	7.59	113.9	105.8	101.3	98.7
1911	4.07	5.30	3.94	5.93	91.3	87.6	75.9	77.1
1912	4.20	5.60	4.60	7.18	94.2	92.6	88.6	93.4
1913	4.46	6.05	5.19	7.69	100.0	100.0	100.0	100.0
1914	4.79	6.31	5.56	7.99	107.4	104.3	107.1	103.9
1915	5.23	6.85	6.36	9.05	117.3	113.2	122.5	117.7
1916	6.27	8.19	7.82	10.77	140.6	135.4	150.7	140.1
1917	9.54	12.23	11.04	15.68	213.9	202.1	212.7	203.9
1918	10.82	13.98	12.44	16.98	242.6	231.1	239.7	220.8
1919	9.35	12.98	10.47	16.31	209.6	214.5	201.7	212.1
1920	8.11	11.94	9.49	15.47	181.8	197.4	182.9	201.2
1921	4.55	7.20	5.13	9.86	102.0	119.0	98.8	128.2
1922	5.96	9.70	7.15	13.68	133.6	160.3	137.8	177.9
1923	6.65	10.50	7.10	13.89	149.1	173.6	136.8	180.6

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 541.—*Sheep and lambs: Monthly slaughter under Federal inspection, 1907–1923.*

Calendar year.	January.	February.	March.	April.	May.	June.	July.
1907	1,016,701	837,329	841,526	861,005	768,871	735,065	864,940
1908	871,642	724,857	677,048	663,624	731,785	841,716	891,112
1909	906,338	805,561	903,369	839,010	712,103	842,528	904,114
1910	903,242	770,796	726,675	692,897	795,699	926,900	967,378
1911	1,129,800	1,018,696	1,059,388	974,072	1,085,306	1,146,429	1,149,617
1912	1,383,239	1,151,431	1,105,620	970,574	962,679	1,028,426	1,181,246
1913	1,192,485	960,882	883,197	1,048,656	1,127,345	1,134,615	1,273,496
1914	1,296,625	1,112,500	1,143,188	1,149,928	1,084,577	1,113,437	1,171,105
1915	1,196,268	945,912	986,203	829,906	739,051	882,662	983,684
1916	976,417	903,755	861,470	768,683	854,014	989,824	930,169
1917	956,416	818,640	861,331	777,346	632,451	710,031	686,205
1918	779,934	655,015	735,595	613,814	659,063	737,298	869,403
1919	1,003,880	753,940	737,836	807,766	894,324	931,466	1,160,470
1920	954,607	828,426	787,867	713,796	670,674	817,553	1,048,428
1921	1,068,346	958,019	1,075,213	1,040,628	984,903	1,116,069	1,059,902
1922	954,329	775,841	837,216	739,117	872,069	1,028,136	964,109
1923	1,021,211	836,473	977,426	959,697	972,291	914,372	961,791

Calendar year.	August.	September.	October.	November.	December.	Total.
1907	900,462	891,953	972,656	793,155	768,707	10,252,070
1908	932,367	1,064,376	1,047,568	928,266	930,305	10,304,666
1909	1,018,698	1,153,327	1,169,232	1,028,673	999,684	11,342,537
1910	1,095,036	1,154,289	1,206,237	1,124,698	1,044,173	11,408,020
1911	1,268,405	1,256,948	1,428,228	1,303,770	1,199,787	14,020,446
1912	1,389,635	1,439,630	1,722,955	1,424,063	1,219,756	14,979,254
1913	1,243,440	1,486,305	1,513,922	1,257,546	1,283,870	14,405,759
1914	1,169,430	1,379,097	1,330,529	1,111,857	1,167,069	14,229,342
1915	1,139,236	1,219,649	1,116,002	1,132,499	1,040,693	12,211,765
1916	1,172,838	1,158,116	1,172,118	1,120,852	1,033,110	11,941,366
1917	765,939	740,122	821,933	763,781	808,799	9,344,994
1918	936,683	1,028,645	1,194,208	1,139,292	970,927	10,319,877
1919	1,233,883	1,291,979	1,413,805	1,227,190	1,234,577	12,691,116
1920	1,041,580	1,150,776	1,067,821	968,235	932,417	10,982,180
1921	1,236,992	1,249,032	1,285,430	1,040,390	889,980	13,004,904
1922	1,023,787	1,013,281	981,232	882,213	857,611	10,928,941
1923	956,580	989,560	1,046,239	915,229	977,681	11,528,550

Bureau of Animal Industry.

TABLE 542.—*Mutton and lamb: Cold-storage holdings in United States, 1916–1923.*

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1916	4,976	5,286	5,812	5,084	3,858	2,525	1,939	2,098	2,135	2,579	3,465	5,000
1917	4,886	5,895	4,949	4,872	4,369	3,508	4,380	3,972	2,716	2,768	4,194	5,406
1918	7,403	6,315	7,855	5,599	3,348	3,860	2,429	3,150	4,046	5,275	8,645	9,035
1919	12,760	11,360	8,013	6,505	7,623	7,718	7,279	7,283	7,817	8,318	7,894	9,409
1920	10,290	7,787	5,781	3,517	2,579	5,735	4,311	2,299	11,021	25,325	48,997	56,702
1921	68,032	78,082	59,304	38,520	25,129	15,877	8,714	6,751	5,903	5,993	6,840	7,520
1922	6,444	3,914	2,803	2,878	2,071	2,310	3,720	3,308	3,376	3,473	3,458	3,633
1923	4,523	5,980	5,758	6,635	5,774	4,445	3,556	2,752	1,785	1,719	1,997	2,014

Division of Statistical and Historical Research.

TABLE 543.—*Monthly statement of the livestock and meat situation, 1923.*

SHEEP, LAMB, AND MUTTON.

Item	Unit.	Jan.	Feb.	Mar.	Apr.	May.	June.
Inspected slaughter	Thousands	1,021	836	978	960	972	914
Average live weight	Pounds	88	85	85	82	78	76
Average dressed weight	do	42	42	40	39	39	37
Total dressed weight (carcass)	1,000 lbs.	42,574	34,831	39,410	37,726	37,482	33,676
Fresh lamb and mutton:							
Storage 1st of month	do	4,523	5,980	5,758	6,635	5,774	4,445
Exports [1]	do	227	248	99	64	170	322
Imports	do	1,607	388	1,280	49	79	75
Receipts of sheep [2]	Thousands	1,636	1,366	1,430	1,447	1,794	1,426
Stocker and feeder shipments [2]	do	171	169	114	82	216	117
Prices per 100 pounds:							
Average cost for slaughter	Dollars	12.67	12.50	12.85	12.41	12.31	11.14
At Chicago—							
Lambs, 84 pounds down, medium-prime	do	14.06	14.24	14.24	13.76	13.67	14.02
Sheep, medium-choice	do	7.63	7.90	8.51	8.74	7.00	5.69
At eastern markets—							
Lamb carcasses, good grade	do	24.51	23.16	23.47	23.59	26.54	27.57
Mutton, good grade	do	14.75	14.73	13.80	16.04	17.03	14.72
Sheep on farms, Jan. 1	Thousands	37,223					

Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Inspected slaughter	Thousands	962	957	990	1,046	915	978	11,529
Average live weight	Pounds	75	77	78	80	77	83	[3] 81
Average dressed weight	do	37	37	37	38	39	39	[3] 39
Total dressed weight (carcass)	1,000 lbs.	35,163	35,192	37,099	39,799	35,547	38,286	446,785
Fresh lamb and mutton:								
Storage 1st of month	do	3,556	2,752	1,785	1,719	1,997	2,014	[4] 3,912
Exports [1]	do	335	245	144	99	73	98	2,124
Imports	do	43	332	694	359	222	87	5,215
Receipts of sheep [2]	Thousands	1,661	1,800	2,659	3,464	1,816	1,526	22,025
Stocker and feeder shipments [2]	do	188	341	897	1,489	540	154	4,478
Prices per 100 pounds:								
Average cost for slaughter	Dollars	11.99	11.52	11.81	11.37	11.96	11.54	[3] 12.03
At Chicago—								
Lambs, 84-pound down, medium-prime	do	13.54	12.07	12.86	12.30	11.94	12.18	[4] 13.24
Sheep, medium-choice	do	5.84	6.68	6.37	6.22	6.30	6.74	[4] 6.97
At eastern markets—								
Lamb carcasses, good grade	do	26.12	26.95	26.29	22.73	23.90	23.13	[4] 24.83
Mutton, good grade	do	16.90	18.80	15.63	14.77	14.86	15.57	[4] 15.63

Division of Statistical and Historical Research. Inspected slaughter from reports of the Bureau of Animal Industry; exports and imports from the Bureau of Foreign and Domestic Commerce; weights and storage holdings from reports of the Division of Statistical and Historical Research; receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats and Wool Division, and number on farms from Division of Crop and Livestock Estimates, Bureau of Agricultural Economics.

[1] Including re-exports. [2] Public stockyards. [3] Weighted average. [4] Simple average, not total.

TABLE 544.—*Mutton and lamb: Exports from the United States, 1910–1924.*

Year ending June 30—	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	127	146	142	207	147	166	128	124	206	103	232	171	1,949
1910–11	137	139	155	154	162	196	182	234	319	225	131	126	2,160
1911–12	157	147	282	277	242	252	328	628	389	267	324	312	3,596
1912–13	586	348	503	431	495	564	470	487	409	294	310	399	5,296
1913–14	286	379	458	325	378	534	366	409	298	491	409	352	4,685
1914–15	324	375	421	166	144	92	330	697	328	260	457	283	3,877
1915–16	378	234	385	305	299	275	319	497	948	905	638	370	5,553
1916–17	237	248	310	236	288	262	394	298	195	277	234	217	3,196
1917–18	69	329	141	233	84	391	114	123	168	165	116	165	2,098
1918–19	192	117	100	115	58	198	236	283	160	198	195	322	2,174
1919–20	239	302	229	309	220	315	286	318	539	217	862	122	3,988
1920–21	242	175	145	135	109	425	563	372	431	1,960	996	1,702	7,255
1921–22	395	411	264	100	176	146	195	112	81	89	303	230	2,502
1922–23	203	169	100	52	76	55	225	246	96	63	167	317	1,769
1923–24	321	245	140	97	72	98							

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

TABLE 545.—*Mutton, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909–1922.*

Calendar Year.	Imports.							Exports.				
	France.	Germany.	Sweden.	United Kingdom.	United States.	Canada.	Union of South Africa.	Denmark.	Netherlands.	Argentina.	Australia.	New Zealand.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909	[1] 104	320	525	532,443	[1] 1,641	1,894	2,918	290	25,527	146,595	116,915	222,726
1910	[1] 82	366	348	604,406	[1] 1,997	2,617	2,775	301	19,780	165,570	190,228	227,865
1911	339	200	187	596,968	[1] 2,574	3,359	3,403	226	15,478	189,411	129,568	211,595
1912	875	305	124	562,411	[1] 5,076	5,298	2,513	329	21,012	154,708	115,366	248,569
1913	575	1,522	9	596,992	[1] 4,236	5,352	2,088	201	15,038	101,253	204,919	246,363
1914	6,098	-------	[1] 130	582,370	16,029	3,138	674	184	19,844	129,384	193,264	280,324
1915	20,177	-------	[1] 46	527,289	7,648	2,822	[1] 311	306	25,094	77,250	38,333	302,218
1916	29,079	-------	[1] 1	407,360	11,977	2,597	[1] 538	365	4,562	113,136	66,811	251,245
1917	35,040	-------	[1] 5	287,211	2,702	1,164	[1] 1,020	-------	4,125	87,787	19,174	169,644
1918	29,830	-------	(2)	233,425	[1] 1,023	4,580	[1] 774	-------	2	111,145	59,672	139,575
1919	62,009	-------	122	455,580	5,200	[1] 193	[1] 540	274	5,254	125,131	246,957	329,693
1920	36,432	2,770	1,222	694,150	97,593	[1] 1,253	1,495	807	6,889	122,446	54,893	428,000
1921	22,528	[3] 2,029	372	754,749	17,880	[1] 2,162	[1] 375	40	9,001	115,492	91,712	375,946
1922	13,616	2,814	-------	648,497	10,491	[1] 2,627	[1] 64	157	16,186	173,659	167,613	331,288

Division of Statistical and Historical Research. Compiled from official sources.

[1] Net exports. [2] Less than 500 pounds. [3] Eight months, May–December.

WOOL.

TABLE 546.—*Wool, raw: Production, imports, exports, and apparent consumption, United States, 1870–1923.*

Calendar year.	Production.			Imports.	Reexports.[1]	Net imports.[1]	Exports of domestic wool.	Excess of imports[1] over all exports.	Apparent consumption.
	Fleece.	Pulled.	Total.						
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1870	162,000	-------	162,000	54,459	1,966	52,493	46	52,447	214,447
1871	160,000	-------	160,000	87,740	2,221	85,519	147	85,372	245,372
1872	150,000	-------	150,000	116,386	4,189	112,197	65	112,132	262,132
1873	158,000	-------	158,000	60,231	8,016	52,215	271	51,944	209,944
1874	170,000	-------	170,000	51,565	3,698	47,867	66	47,801	217,801
1875	181,000	-------	181,000	52,090	2,940	49,150	279	48,871	229,871
1876	192,000	-------	192,000	39,731	2,602	37,129	80	37,049	229,049
1877	200,000	-------	200,000	51,335	4,306	47,029	66	46,963	246,963
1878	208,250	-------	208,250	35,799	5,303	30,496	286	30,210	238,460
1879	211,000	-------	211,000	70,248	2,793	67,455	241	67,214	278,214
1880	232,500	-------	232,500	112,761	4,925	107,836	75	107,761	340,261
1881	240,000	-------	240,000	57,511	4,959	52,552	101	52,451	292,451
1882	272,000	-------	272,000	70,661	3,904	66,757	42	66,715	338,715
1883	290,000	-------	290,000	77,183	3,135	74,048	51	73,997	363,997
1884	300,000	-------	300,000	70,229	2,793	67,436	33	67,403	367,403
1885	308,000	-------	308,000	100,000	2,350	97,650	2,179	95,471	403,471
1886	302,000	-------	302,000	131,264	10,220	121,044	171	120,873	422,873
1887	285,000	-------	285,000	105,149	4,937	100,212	120	100,092	385,092
1888	269,000	-------	269,000	108,113	2,982	105,131	28	105,103	374,103
1889	265,000	-------	265,000	128,683	3,888	124,795	301	124,494	389,494
1890	276,000	-------	276,000	108,681	2,790	105,891	223	105,668	381,668
1891	285,000	-------	285,000	139,318	2,720	136,598	122	136,476	421,476
1892	294,000	-------	294,000	167,784	3,315	164,469	230	164,239	458,239
1893	348,538	-------	348,538	111,752	6,778	104,974	229	104,745	453,283
1894	325,211	-------	325,211	115,837	2,801	113,036	1,694	111,342	436,553
1895	294,297	-------	294,297	248,989	3,015	245,974	5,707	240,267	534,564
1896	272,475	-------	272,475	159,776	6,512	153,264	8,483	144,781	417,256
1897	259,153	-------	259,153	356,939	2,184	354,655	1,055	353,600	612,753
1898	266,721	-------	266,721	99,850	4,592	95,258	91	95,167	361,888
1899	272,191	-------	272,191	106,868	13,492	92,376	3,511	88,865	361,056
1900	259,973	28,664	288,637	139,908	3,046	136,862	422	136,440	425,077
1901	265,502	37,060	302,562	124,964	3,228	121,698	97	121,541	424,043
1902	274,341	42,000	316,341	176,293	3,212	173,081	446	172,635	488,976
1903	245,450	42,000	287,450	173,594	3,267	170,327	384	169,943	457,393
1904	249,783	42,000	291,783	186,573	2,165	184,408	184	184,224	476,007

TABLE 546.—*Wool, raw: Production, imports, exports, and apparent consumption, United States, 1870–1923*—Continued.

Calendar year.	Production.			Imports.	Reexports.[1]	Net imports.[2]	Exports of domestic wool.	Excess of imports[1] over all exports.	Apparent consumption.
	Fleece.	Pulled.	Total.						
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1905	253,488	42,000	295,488	246,821	4,278	242,543	72	242,471	537,959
1906	256,915	42,000	298,915	196,844	4,412	192,432	351	192,081	490,996
1907	256,295	42,000	298,295	188,306	3,109	185,197	86	185,111	483,406
1908	270,138	41,000	311,138	142,559	6,985	135,574	169	135,405	446,543
1909	287,111	41,000	328,111	312,131	1,084	311,047	46	311,001	639,112
1910	281,363	40,000	321,363	180,135	9,055	171,080	[3] 48	171,032	492,395
1911	277,548	41,000	318,548	155,923	3,511	152,412	(4)	152,412	470,960
1912	262,543	41,500	304,043	238,118	1,816	236,302	(4)	236,302	540,345
1913	252,075	43,500	296,175	151,814	3,860	147,954	[3] 77	147,877	444,052
1914	247,192	43,000	290,192	260,165	6,426	253,739	[3] 335	253,404	543,593
1915	245,726	40,000	285,726	412,721	2,098	410,623	[3] 8,158	402,465	688,191
1916	244,890	43,600	288,490	449,190	2,128	447,062	3,919	443,143	731,633
1917	241,892	40,000	281,892	420,995	1,421	419,574	1,827	417,747	699,639
1918	256,870	42,000	298,870	453,727	515	453,212	407	452,805	751,675.
1919	249,958	48,300	298,258	445,893	5,689	440,204	2,840	437,364	735,622
1920	235,005	42,900	277,905	259,618	12,636	246,982	8,845	238,137	516,042
1921	223,062	48,500	271,562	320,666	1,605	319,061	1,927	317,134	588,696
1922	222,560	42,000	264,560	376,673	4,425	372,248	453	371,795	636,355
1923	223,610	42,500	266,110	394,250	24,188	370,062	535	369,527	635,637

Livestock, Meats and Wool Division. Production figures 1870–1892 and 1914–1923 from the Division of Crop and Livestock Estimates; 1893–1913, from the National Association of Wool Manufacturers; imports and exports from the Bureau of Foreign and Domestic Commerce.

[1] Imports and reexports include hair of camel, goat, alpaca, etc. Imports of hair not separately stated prior to July 1, 1913; since that date it has constituted less than 2 per cent of the total every year except 1915, when it was 2.4 per cent.

[2] Exports for fiscal years ending June 30 of the years shown.

[3] Included in all other articles.

[4] No transactions.

TABLE 547.—*Wool, fleece: Estimated production, by States, 1921–1923, and United States totals, 1914–1923.*

State.	Production.			Weight per fleece.			Number of fleeces.		
	1921	1922	1923[1]	1921	1922	1923[1]	1921	1922	1923[1]
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Thousands.*	*Thousands.*	*Thousands.*
Maine	600	589	567	6.0	6.2	6.3	100	95	90
New Hampshire	161	128	119	6.7	6.4	6.6	24	20	18
Vermont	365	312	275	6.3	6.5	6.4	58	48	43
Massachusetts	102	102	100	6.0	6.0	6.2	17	17	16
Rhode Island	18	19	20	5.9	6.3	6.5	3	3	3
Connecticut	60	54	44	6.0	6.0	5.5	10	9	8
New York	2,941	2,882	2,968	6.7	6.8	6.9	439	424	430
New Jersey	55	55	47	6.0	5.8	5.0	9	9	9
Pennsylvania	3,403	3,087	3,148	6.4	6.7	6.5	532	461	484
Delaware	13	12	13	3.5	5.8	5.5	4	2	2
Maryland	440	486	512	6.0	6.4	6.4	73	76	80
Virginia	1,541	1,578	1,622	4.6	4.9	4.8	335	322	338
West Virginia	2,300	2,346	2,600	4.9	4.9	5.2	469	479	500
North Carolina	395	395	397	4.2	4.5	4.9	94	88	81
South Carolina	97	102	103	3.5	4.0	4.5	28	26	23
Georgia	160	157	156	2.8	2.9	3.0	57	54	52
Florida	150	157	163	3.1	3.2	3.4	48	49	48
Ohio	13,200	13,596	14,313	7.2	7.4	7.3	1,833	1,837	1,961
Indiana	3,458	3,527	3,820	7.0	7.0	7.1	494	504	538
Illinois	3,496	3,426	3,290	7.6	7.5	7.6	460	457	433
Michigan	7,714	7,868	7,282	7.2	7.3	7.4	1,071	1,078	984
Wisconsin	2,701	2,279	2,271	7.0	7.3	7.4	386	312	307
Minnesota	2,340	2,457	2,225	7.2	7.2	7.5	325	341	297
Iowa	5,369	5,208	4,973	7.5	7.9	7.5	716	659	663
Missouri	5,202	5,098	5,411	6.5	6.6	7.0	800	772	773

[1] Preliminary.

TABLE 547.—*Wool, fleece: Estimated production, by States, 1921–1923, and United States totals, 1914–1923*—Continued.

State.	Production.			Weight per fleece.			Number of fleeces.		
	1921	1922	1923[1]	1921	1922	1923[1]	1921	1922	1923[1]
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*Pounds.*	*Pounds*	*Pounds.*	*Thousands*	*Thousands.*	*Thousands.*
North Dakota	1,633	1,715	1,648	7.7	7.9	8.0	212	217	206
South Dakota	4,324	4,021	4,021	7.2	7.5	7.6	601	536	529
Nebraska	1,641	1,395	1,738	7.4	8.0	7.9	222	174	220
Kansas	1,878	1,690	1,933	7.0	7.5	7.7	268	225	251
Kentucky	2,600	2,678	2,715	4.7	5.0	4.9	553	536	554
Tennessee	1,320	1,294	1,300	4.5	4.5	4.5	293	288	289
Alabama	189	185	227	3.0	3.5	3.6	63	53	63
Mississippi	470	446	454	3.5	3.0	3.2	134	149	142
Louisiana	508	381	385	3.7	3.7	3.4	137	103	113
Texas	18,000	19,300	19,700	7.7	7.2	7.4	2,338	2,681	2,662
Oklahoma	482	458	490	7.3	7.3	7.0	66	63	70
Arkansas	355	344	320	4.3	4.5	4.7	83	76	68
Montana	16,400	16,770	17,775	8.3	8.0	8.4	1,976	2,096	2,116
Wyoming	21,200	20,400	18,800	8.2	8.0	7.7	2,585	2,550	2,442
Colorado	6,839	6,976	6,580	7.0	6.5	7.0	977	1,073	940
New Mexico	10,109	11,246	10,890	6.4	6.0	6.6	1,578	1,874	1,650
Arizona	5,616	6,000	5,798	6.0	6.5	6.5	936	923	892
Utah	16,500	16,800	17,210	8.0	7.4	7.9	2,062	2,270	2,178
Nevada	7,000	7,650	7,942	7.3	6.5	7.6	959	1,177	1,045
Idaho	16,800	16,642	15,455	8.0	7.8	8.1	2,100	2,134	1,908
Washington	4,421	3,802	4,409	8.8	7.7	8.8	502	494	501
Oregon	14,435	12,992	13,200	8.6	7.5	9.0	1,678	1,732	1,467
California	14,070	13,455	14,181	7.5	6.9	7.2	1,876	1,950	1,970
United States	223,062	222,560	223,610	7.3	7.1	7.3	30,584	31,516	30,457
1914		247,192			6.8			36,354	
1915		245,726			6.8			35,908	
1916		244,890			7.0			35,202	
1917		241,892			7.0			34,414	
1918		256,870			7.1			36,178	
1919		249,958			7.4			33,899	
1920		235,005			7.3			32,301	
1921		223,062			7.3			30,584	
1922		222,560			7.1			31,516	
1923[1]		223,610			7.3			30,457	

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 548.—*Wool: Estimated production, by countries and grand divisions.*

Country.	Calendar years.										
	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	Million lbs.	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*
Australasia	833	750	827	767	645	742	742	825	852	718	818
South America	555	531	455	477	480	470	4	484	487	592	599
North America	322	315	309	308	307	304	470	336	328	298	281
United Kingdom	148	133	125	121	121	121	125	118	99	100	103
Russia in Europe	320	320	320	320	320	320	320	320	150	320	110
France	78	78	80	75	75	65	65	50	50	40	40
Germany	26	26	26	26	26	26	26	20	37	43	52
Italy	21	22	22	22	22	22	22	22	35	79	50
All other in Europe	225	225	227	239	240	240	240	236	380	317	308
Asia	273	273	273	273	273	273	273	327	327	327	265
Africa	175	208	208	208	208	208	208	150	220	169	278
Total	2,971	2,881	2,872	2,836	2,717	2,791	2,809	2,894	2,965	3,003	2,704

Division of Statistical and Historical Research. Compiled from Annual Wool Review of the National Association of Wool Manufacturers.

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TABLE 549.—*Wool: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Algeria	2,445	19,871	2,456	14,598	1,865	19,372	2,866	15,566
Argentina	214	328,204	110	229,019	----	316,484	----	402,688
Australia	324	676,679	324	511,653	773	868,362	[1] 141	711,116
Brazil	[1] 511	[2] 2,959	[1] 694	3,573	[1] 148	7,127	----	[1] 7,851
British India	23,721	56,496	22,766	23,956	17,937	23,814	20,586	51,738
Chile	1,247	28,223	675	30,392	188	26,902	----	[1] 17,453
China	----	42,884	----	20,147	----	68,205	----	77,792
Greece	281	294	503	2,187	871	1,397	586	1,439
Hungary	----	----	----	[1] 7,896	[1] 177	[1] 14,830	[1] 700	[1] 9,134
Morocco	----	8,607	----	3,638	----	1,575	----	[1] 3,875
New Zealand	168	194,801	37	162,327	126	159,419	----	306,295
Persia	[2] 2,753	10,023	303	3,647	[1] 144	[1] 1,286	----	----
Peru	[2] 3	9,333	35	7,450	2	4,454	81	10,088
Spain	2,446	28,505	4,488	14,846	2,113	5,257	5,044	13,449
Union of South Africa	7	164,633	183	191,218	176	247,536	51	235,576
Uruguay	----	139,178	----	69,393	----	[1] 122,045	----	[1] 102,328
PRINCIPAL IMPORTING COUNTRIES.								
Austria	----	----	3,963	889	15,362	2,432	[1] 13,517	[1] 2,143
Austria-Hungary	63,942	9,022	----	----	----	----	----	----
Belgium	300,367	196,449	272,206	154,314	204,015	141,393	194,918	76,095
Canada	7,794	1,323	12,268	6,289	9,204	3,310	15,907	7,159
Czechoslovakia	----	----	[1] 28,715	[1] 450	[1] 37,171	[1] 462	[1] 36,080	[1] 3,056
Denmark	2,337	1,124	707	677	1,363	140	1,711	304
Finland	1,794	30	2,482	----	1,934	[1] 1	4,047	----
France	601,628	84,973	363,545	[1] 33,696	235,899	33,403	681,252	50,598
Germany	481,988	42,817	122,779	1,230	[1] 277,589	[4] 4,554	443,327	16,676
Italy	30,145	3,933	64,893	2,518	44,279	5,224	85,253	9,402
Japan	10,223	----	71,541	----	30,531	----	[1] 66,923	----
Netherlands	31,991	26,362	14,256	5,702	14,712	3,760	14,777	3,829
Norway	3,644	123	2,768	382	1,636	210	4,110	163
Poland	----	----	14,778	38	[1] 21,351	[1] 129	[1] 34,378	[1] 1,030
Russia	106,184	32,406	[1] 289	[1] 25	[1] 437	[1] 1,757	----	[1] 10,870
Sweden	7,267	149	8,756	96	7,164	40	16,422	157
Switzerland	11,211	338	10,317	234	12,193	54	15,102	246
United Kingdom	550,931	42,027	720,457	22,536	486,668	36,569	751,628	62,302
United States	203,298	[5] 46	259,618	8,845	320,666	1,927	376,795	453
Other countries	10,467	38,702	1,882	22,594	5,907	18,960	3,630	17,632
Total	2,459,331	2,190,905	2,008,884	1,561,455	1,832,601	2,141,390	2,789,832	2,229,103

Division of Statistical and Historical Research. Official sources except where otherwise noted.

"Wool" in this table includes: Washed, unwashed, scoured, and pulled wool; slipe, sheep's wool on skins (total weight of wool and skins taken); and all other animal fibers included in United States classification of wool. The following items have been considered as not within this classification: Corded, combed, and dyed wool; flocks, goatskins with hair on, mill waste, noils, and tops.

[1] International Institute of Agriculture.
[2] Four-year average.
[3] Three-year average.
[4] Eight months, May–December.
[5] One year only.

TABLE 550.—*Wool (unwashed): Farm price per pound, 15th of month, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1910	24.5	24.6	24.9	22.3	22.8	19.5	19.0	19.5	17.7	18.1	17.9	17.8	20.5
1911	17.3	17.3	16.8	15.7	14.7	15.5	15.4	16.0	15.6	15.5	15.6	15.5	15.6
1912	16.2	16.3	16.9	17.3	17.8	18.7	18.9	18.8	18.7	18.5	18.6	18.6	18.1
1913	18.6	18.7	18.4	17.7	16.3	15.6	15.9	15.8	15.8	15.5	15.6	16.1	16.4
Av. 1910–1913	19.2	19.2	19.2	18.2	17.9	17.3	17.3	17.5	17.0	16.9	16.9	17.0	17.6
1914	15.7	15.7	16.4	16.8	17.2	18.4	18.5	18.7	18.6	18.0	18.1	18.6	17.7
1915	18.6	20.2	22.8	22.7	22.0	23.7	24.2	23.8	23.3	22.7	22.7	23.3	22.8
1916	23.3	24.2	25.9	26.3	28.0	28.7	28.6	29.0	28.4	28.7	29.4	30.8	27.9
1917	31.8	32.7	36.7	38.8	43.7	49.8	54.3	54.8	54.2	55.5	55.9	58.2	47.8
1918	58.1	57.1	60.0	60.0	58.2	57.4	57.5	57.4	57.7	57.7	56.4	56.2	57.9
1919	55.2	51.1	51.3	47.9	48.0	50.5	51.8	52.2	51.3	50.6	51.0	51.6	50.3
1920	53.3	52.5	51.5	51.3	50.3	38.6	29.5	28.3	28.0	27.5	24.9	21.9	39.1
Av. 1914–1920	30.6	28.2	37.8	37.2	38.2	38.2	37.8	37.7	37.4	37.2	36.9	37.2	37.6
1921	19.6	19.8	18.9	17.9	16.0	15.4	15.5	15.4	15.5	15.8	15.6	16.9	16.4
1922	18.0	22.3	23.0	24.8	29.0	32.8	32.5	31.6	31.6	32.2	33.2	35.3	29.8
1923	35.3	35.3	37.3	39.2	41.7	41.5	38.3	37.0	37.1	36.9	36.4	36.2	38.9

Division of Crop and Livestock Estimates.

TABLE 551.—*Stocks of wool, tops, and noils held by dealers and manufacturers in United States, 1918–1923.*

Date.	Held by dealers.					Held by manufacturers.				
	Grease.	Scoured.	Pulled.	Tops.	Noils.	Grease.	Scoured.	Pulled.	Tops.	Noils.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1918.										
Jan. 1	156, 639	27, 849	12, 229	4, 642	7, 565	172, 342	29, 912	9, 627	18, 677	13, 567
Apr. 1	91, 209	22, 887	14, 444	3, 555	6, 054	135, 685	23, 672	9, 322	16, 117	11, 387
July 1	202, 241	11, 721	10, 478	2, 074	3, 848	136, 267	19, 601	9, 433	14, 251	13, 064
Oct. 1	219, 659	12, 926	10, 701	347	3, 655	101, 900	16, 236	8, 449	12, 288	12, 407
1919.										
Jan. 1	81, 923	12, 347	10, 215	1, 422	5, 104	58, 602	13, 816	5, 233	10, 395	12, 385
Apr. 1	26, 690	7, 952	5, 984	898	2, 823	72, 637	13, 654	6, 663	10, 962	10, 381
July 1	198, 298	22, 155	10, 108	1, 801	2, 577	147, 678	16, 117	11, 740	11, 388	9, 820
Oct. 1	207, 264	27, 921	14, 497	3, 446	3, 184	181, 301	17, 705	7, 829	15, 286	9, 822
1920.										
Jan. 1	152, 003	24, 630	17, 907	4, 735	3, 893	148, 239	20, 030	10, 152	13, 875	7, 316
Apr. 1	123, 247	26, 279	17, 710	3, 646	4, 305	135, 645	28, 100	9, 339	14, 328	8, 670
July 1	144, 837	27, 963	15, 207	4, 487	6, 041	112, 434	23, 078	6, 762	15, 439	9, 002
Oct. 1	179, 376	29, 988	11, 229	5, 504	4, 754	75, 288	15, 612	12, 067	15, 839	9, 124
1921.										
Jan. 1	188, 822	27, 814	14, 352	6, 616	5, 434	119, 766	17, 291	6, 895	18, 851	9, 991
Apr. 1	194, 891	22, 807	15, 505	7, 023	3, 690	159, 599	18, 442	17, 095	19, 325	9, 316
July 1	176, 584	19, 703	12, 127	4, 883	4, 139	164, 713	18, 042	10, 787	20, 247	8, 101
Oct. 1	181, 574	19, 480	11, 201	4, 005	3, 009	180, 727	19, 736	10, 484	23, 184	7, 463
1922.[1]										
Jan. 1	101, 384	13, 468	10, 222	2, 866	2, 453	171, 597	21, 007	9, 312	17, 536	7, 136
Apr. 1	70, 415	10, 995	6, 969	2, 296	1, 373	171, 026	25, 400	10, 419	18, 029	7, 176
July 1	156, 523	13, 447	6, 988	2, 627	1, 619	165, 810	22, 201	9, 642	20, 720	6, 709
Oct. 1	176, 377	16, 521	7, 384	3, 327	2, 695	191, 351	20, 336	8, 086	19, 227	5, 904
1923.[1]										
Jan. 1	134, 644	22, 150	11, 106	3, 658	6, 158	193, 492	20, 596	8, 824	20, 211	7, 644
Apr. 1	126, 158	24, 734	13, 503	3, 378	6, 378	175, 422	21, 787	11, 930	18, 402	8, 247
July 1	186, 730	21, 075	13, 126	5, 125	5, 977	161, 435	18, 464	11, 148	16, 579	8, 364
Oct. 1	175, 843	21, 679	10, 531	3, 136	5, 675	130, 935	15, 992	8, 961	16, 998	7, 511

Division of Statistical and Historical Research.

[1] Figures do not include estimates for firms not reporting.

TABLE 552.—*Wool: Quarterly average price per pound on farms, by districts, 1910–1923.*

Date.	Ohio, Pennsylvania, and West Virginia.	Michigan, Wisconsin, and New York.	Kentucky and Indiana.	Missouri, Iowa, and Illinois.	Texas.	California.	Montana, Wyoming, Utah, Idaho, Oregon, Nevada, Arizona.	New Mexico.	Florida, Alabama, Mississippi, Louisiana, and Georgia.
1910.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
January–March	31	29	29	28	21	16	22	20	29
April–June	27	24	26	24	20	17	19	20	25
July–September	23	22	24	21	19	16	17	15	23
October–December	22	22	22	20	17	14	17	14	20
1911.									
January–March	22	20	21	19	16	12	16	13	20
April–June	19	17	19	17	15	12	14	12	18
July–September	20	18	18	17	15	12	15	12	18
October–December	20	19	19	17	14	11	15	13	18
1912.									
January–March	20	19	20	18	15	13	15	13	18
April–June	22	20	21	19	15	14	17	13	17
July–September	24	23	22	21	16	15	17	14	20
October–December	24	22	22	20	15	15	17	15	19

TABLE 552.—*Wool: Quarterly average price per pound on farms, by districts, 1910–1923*—Continued.

Date.	Ohio, Pennsylvania, and West Virginia.	Michigan, Wisconsin, and New York.	Kentucky and Indiana.	Missouri, Iowa, and Illinois.	Texas.	California.	Montana, Wyoming, Utah, Idaho, Oregon, Nevada, Arizona.	New Mexico.	Florida, Alabama, Mississippi, Louisiana, and Georgia.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1913.									
January–March	24	21	22	20	15	15	17	15	19
April–June	20	18	19	18	14	14	15	13	17
July–September	20	19	19	17	13	15	14	12	17
October–December	20	19	19	17	13	12	14	12	17
1914.									
January–March	20	18	19	17	13	12	15	13	17
April–June	21	20	21	18	15	15	16	15	16
July–September	23	21	22	20	16	15	17	16	17
October–December	23	21	20	19	14	15	17	15	17
1915.									
January–March	24	23	23	20	15	16	21	17	17
April–June	26	26	26	24	18	20	22	18	18
July–September	28	29	28	26	19	20	22	19	21
October–December	28	28	27	26	18	17	21	19	20
1916.									
January–March	29	29	28	26	20	18	24	21	20
April–June	32	32	33	30	23	24	27	22	25
July–September	34	34	34	31	24	24	27	24	25
October–December	35	34	34	31	25	21	28	24	26
1917.									
January–March	38	37	35	33	26	31	35	27	25
April–June	48	48	48	45	35	45	44	37	32
July–September	64	61	59	57	44	52	53	46	44
October–December	66	64	62	58	47	51	56	48	46
1918.									
January–March	69	65	62	59	50	53	57	47	45
April–June	69	65	66	61	51	49	55	54	49
July–September	67	65	65	61	52	50	55	49	53
October–December	67	65	64	60	51	50	54	44	54
1919.									
January–March	62	58	62	56	45	42	51	35	50
April–June	58	52	53	49	42	43	48	42	44
July–September	63	58	55	53	46	47	49	46	45
October–December	63	57	55	51	44	42	48	48	44
1920.									
January–March	63	58	54	52	46	45	50	45	48
April–June	58	50	48	44	45	44	44	44	41
July–September	33	30	34	28	30	28	28	25	25
October–December	28	26	27	22	24	23	26	22	19
Av. 1914–1920	44	42	42	38	32	33	36	32	32
1921.									
January–March	27	23	22	18	20	13	19	15	17
April–June	22	19	17	17	15	10	16	14	16
July–September	19	18	16	15	14	12	16	12	13
October–December	20	18	17	15	14	13	16	14	14
1922.									
January–March	25	23	19	19	17	23	24	18	14
April–June	33	29	27	25	26	31	31	26	18
July–September	38	33	31	30	33	35	31	30	24
October–December	38	35	32	32	34	31	34	32	23
1923.									
January–March	39	36	33	32	37	38	37	36	23
April–June	43	42	40	39	40	42	42	40	27
July–September	43	41	38	38	37	35	38	34	29
October–December	42	41	38	36	34	33	36	34	33

Division of Statistical and Historical Research. Compiled from data of the Division of Crop and Livestock Estimates.

TABLE 553.—*Wool: Monthly average price per pound, Boston market, 1910–1923.*

OHIO, PENNSYLVANIA, AND WEST VIRGINIA—FINE CLOTHING, UNWASHED.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	$0.28	$0.28	$0.27	$0.25	$0.24	$0.22	$0.22	$0.21	$0.21	$0.23	$0.23	$0.23	$0.24
1911	.23	.22	.21	.20	.19	.19	.20	.20	21	21	.21	.22	.21
1912	.22	.22	.22	.22	.22	.22	.24	.24	.24	.24	.24	.24	.23
1913	.24	.24	.23	22.	.21	.21	.21	.21	.21	.21	.21	.21	.22
1914	.21	.21	.22	.22	.23	.24	.25	.25	.25	.24	.24	.24	.23
1915	.25	.29	.29	.26	.26	.26	.27	.27	.27	.27	.27	.27	.27
1916	.28	.28	.29	.31	31	.31	.31	.31	.31	.33	.34	.37	.31
1917	.39	.42	.45	.44	.47	.55	.58	.63	.66	.63	.65	.65	.54
1918	.65	.65.	.65	.67	.64	.62.	.67	.64	.62	.67	.64	.62	.64
1919	.57	.56	.54	.53	.53	.58	.68	.70	.70	.67	.68	.70	.62
1920 [1]	.70	.75	.76	.70	.65	.60	.57	.54	.54	.42	.38	.38	.58
Av. 1914–1920	.44	.45	.46	.45	.44	.45	.48	.48	.48.	46	.46	.46	.46
1921	.31	.31	.32	.32	.31	.30	.28	.28	.28	.28	.29	.31	.30
1922	.34	.38	.38	.38	.40	.46	.47	.47	.47	.49	.50	.50	.44
1923	.52	.52	.51	.51	.52	.53	.51	.49	.49	.49	.49	.49	.51

TERRITORY—FINE STAPLE, SCOURED.

1910	$0.74	$0.73	$0.71	$0.68	$0.63	$0.61	$0.61	$0.62	$0.62	$0.63	$0.63	$0.63	$0.65
1911	.61	.59	.54	.53	.52	.52	.55	.56	.59	.60	.61	.61	.57
1912	.61	.61	.61	.61	.61	.61	.63	.68	.68	.68	.67	.67	.64
1913	.66	.64	.59	.56	.55	.54	.54	.54	.54	.53	.53	.52	.56
1914	.52	.56	.57	.59	.60	.61	.61	.63	.61	.59	.61	.61	.59
1915	.63	.73	.73	.71	.69	.71	.71	.71	.71	.71	.71	.73	.71
1916	.74	.77	.77	.79	.79	.81	.82	.85	.89	.89	.97	1.05	.84
1917	1.13	1.23	1.28	1.33	1.38	1.74	1.74	1.78	1.81	1.80	1.80	1.80	1.57
1918	1.80	1.80	1.83	1.85	1.80	1.80	1.85	1.80	1.80	1.85	1.80	1.80	1.82
1919	1.60	1.52	1.58	1.65	1.65	1.75	1.85	1.85	1.85	2.00	2.00	2.00	1.78
1920 [1]	2.00	2.05	2.05	2.00	2.00	1.75	1.60	1.45	1.30	1.20	.95	.90	1.60
Av. 1914–1920	1.20	1.24	1.26	1.27	1.27	1.31	1.31	1.30	1.28	1.29	1.26	1.27	1.27
1921	.84	.90	.89	.88	.86	.82	.82	.82	.82	.82	.84	.88	.85
1922	.97	1.10	1.10	1.09	1.27	1.34	1.35	1.31	1.30	1.34	1.39	1.40	1.25
1923	1.43	1.44	1.44	1.49	1.53	1.50	1.44	1.37	1.32	1.30	1.30	1.34	1.41

Division of Statistical and Historical Research. 1910–1920 data from National Association of Wool Manufacturers. 1921–1923 data from Boston Commercial Bulletin.

[1] Prices June-December, 1920, largely nominal.

TABLE 554.—*Wool: Average prices per pound in England, 1909–1923.*

LINCOLN HOGGETS.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1909	17.5	18.0	18.0	18.0	18.0	19.5	19.5	19.0	19.5	19.5	20.0	20.5	18.9
1910	20.0	21.0	21.0	21.0	20.5	19.5	19.0	20.0	20.0	20.0	20.0	20.0	20.2
1911	20.0	20.5	20.5	20.5	20.2	20.0	20.0	20.0	20.0	20.0	21.0	20.2	20.2
1912	21.3	20.8	20.8	20.8	20.3	20.8	21.3	21.8	22.3	22.8	23.2	23.7	21.7
1913	25.4	25.9	26.4	26.4	26.4	26.9	26.9	27.9	25.8	25.8	25.8	25.3	26.2
Av. 1909–1913	20.8	21.2	21.3	21.3	21.1	21.3	21.3	21.7	21.5	21.6	22.0	21.9	21.4
1914	25.8	27.3	27.4	27.4	27.5	26.5	25.5	26.0	25.9	26.8	28.6	28.4	26.9
1915	28.5	34.1	34.5	35.0	33.4	35.8	35.7	33.8	33.7	34.2	36.0	36.9	34.3
1916 [2]	37.6	37.7	39.7	39.7	38.7	37.7	37.7	37.7	38.7	39.6	41.6	43.5	39.2
1920	42.8	39.4	44.0	45.7	38.5	34.5	32.1	33.2	30.7	27.5	25.7	20.4	34.5
1921	21.9	21.0	17.9	17.2	16.6	13.4	12.5	13.3	14.0	14.5	15.7	15.2	16.1
1922	17.2	17.7	17.8	18.8	19.5	20.9	22.2	22.3	22.2	22.7	22.3	23.0	20.6
1923	23.8	24.4	24.5	24.2	24.1	24.5	25.8	25.7	25.5	25.0	24.2	24.5	24.7

[1] First-shorn fleece, but not lambs' wool.
[2] Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, 46–48 cts

TABLE 554.—*Wool: Average prices per pound in England, 1909–1923*—Contd.

LINCOLN WETHERS.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1909	15.5	16.0	16.0	16.0	16.0	16.5	15.5	16.0	17.0	17.0	18.0	18.5	16.5
1910	18.5	20.0	20.0	19.5	19.0	18.5	17.5	19.0	20.0	19.5	19.0	20.0	19.2
1911	19.7	20.0	20.2	20.0	19.5	19.5	19.5	19.0	19.0	19.0	19.5	19.5	19.5
1912	20.2	20.3	19.8	19.7	19.5	19.8	20.8	21.3	21.8	22.3	22.7	23.2	20.1
1913	23.8	25.4	25.9	25.9	25.8	25.9	25.4	24.8	24.8	24.8	24.8	24.7	25.2
Av. 1909–1913	19.5	20.3	20.4	20.2	20.0	20.0	19.7	20.0	20.5	20.5	20.8	21.2	20.1
1914	24.3	24.8	25.3	24.9	24.4	24.4	23.4	24.0	24.4	26.8	28.6	27.4	25.2
1915	27.2	33.1	33.5	34.0	33.4	35.8	35.7	33.8	33.7	34.2	36.0	36.9	33.9
1916[2]	37.6	37.7	39.7	39.7	38.7	37.7	37.7	37.7	38.7	39.6	41.6	43.5	39.2
1920	41.3	38.0	42.5	42.4	33.7	32.1	28.1	26.4	25.6	21.7	20.0	17.5	30.8
1921	17.2	16.1	13.0	12.3	11.6	9.8	9.8	10.3	10.5	11.3	12.9	11.7	12.1
1922	13.2	13.6	13.7	13.8	14.4	14.4	15.2	15.3	14.3	14.3	15.4	17.8	14.6
1923	18.4	19.1	19.1	18.9	19.3	19.7	20.1	20.4	20.3	20.7	21.9	23.6	20.1

Division of Statistical and Historical Research. The Yorkshire Observer "Trade Review" for 1922. Converted at par prior to 1912; after 1911, converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, 46-48 cts.
[2] Includes all fleeces shorn after the first.

SHEEP SHIPMENT AND MARKETING.

TABLE 555.—*Sheep: Percentage of shrinkage[1] in shipments by cooperative associations, 1921.*

Distance.	By distance.				Month.	By months.			
	Straight shipments.[2]		Mixed shipments.[3]			Straight shipments.[2]		Mixed shipments.[3]	
	Number of animals upon which figures are based.	Shrinkage per centage of weight shipped	Number of animals upon which figures are based.	Shrinkage per centage of weight shipped		Number of animals upon which figures are based.	Shrinkage per centage of weight shipped	Number of animals upon which figures are based.	Shrinkage per centage of weight shipped
Less than 100 miles	2,479	8.90	10,881	7.56	January	1,922	5.20	4,865	6.18
100–150 miles	6,472	7.10	8,373	6.86	February	567	5.88	2,250	6.55
150–200 miles	5,139	7.02	1,676	5.92	March	1,736	6.95	3,538	7.42
200–250 miles	1,978	7.22	9,904	8.01	April	1,013	8.55	5,081	7.84
250–300 miles	860	8.65	1,297	9.17	May	1,060	9.20	3,401	7.74
300–350 miles	1,026	9.92	5,204	7.92	June	1,728	10.13	2,941	8.88
350–400 miles	2,237	10.40	18,538	8.56	July	1,873	8.32	2,510	9.30
400–450 miles	2,073	8.77	2,288	8.93	August	3,285	8.90	5,863	10.08
450–500 miles	642	6.87	359	10.02	September	3,098	8.11	6,468	10.01
500–550 miles					October	2,988	7.79	9,168	8.02
550–600 miles	1,186	8.22			November	3,349	7.93	8,386	7.08
					December	1,499	7.60	4,049	5.56

Division of Cost of Marketing.

[1] Shrinkage represents the difference between the shipping point weight and the terminal weight including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
[2] Straight shipments contain but one species of livestock.
[3] Mixed shipments contain more than one species of livestock.

TABLE 556.—*Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.*

BY MARKETS—STRAIGHT SHIPMENTS.[1]

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Buffalo	1,676	77	0.24	0.20	65	0.72	0.67	71
Chicago	16,770	87	.20	----------	----------	.51	----------	----------
East St. Louis	1,926	73	.11	----------	----------	.52	----------	----------
Kansas City	3,390	74	.06	.06	80	.35	----------	----------
Sioux City	1,856	95	.27	.37	128	.33	.38	110

BY MARKETS—MIXED SHIPMENTS.[2]

Buffalo	22,826	78	0.30	----------	----------	0.73	----------	----------
Chicago	3,124	84	.22	----------	----------	1.09	----------	----------
East St. Louis	856	72	.12	0.13	80	.35	----------	----------
Pittsburgh	19,305	72	.09	----------	----------	.16	----------	----------
St. Paul	2,782	99	.07	.10	125	.21	0.21	91

Division of Cost of Marketing.

[1] Straight shipments contain but one species of livestock.
[2] Mixed shipments contain more than one species of livestock.

TABLE 557.—*Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.*

BY DISTANCE.

Distance.	Straight shipments.[1]						Mixed shipments.[2]			
	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Percentage of total number shipped dead.	Number of animals upon which figures are based.	Average weight of animals.	Percentage of total number shipped crippled.	Percentage of total number shipped dead.
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.					
		Pounds.			*Pounds.*			*Pounds.*		
Less than 100 miles	3,210	75	0.03	0.04	100	0.18	11,174	69	0.01	0.39
100–150 miles	7,702	83	.04	.04	77	.35	10,788	74	.06	.36
150–200 miles	6,255	87	.16	.18	97	.30	1,890	86	.16	.16
200–250 miles	4,551	85	.10	.07	52	.31	10,973	88	.07	.19
250–300 miles	860	70	----------	----------	----------	.46	1,297	75	.06	1.34
300–350 miles	1,266	84	.08	.05	60	.23	5,223	80	.15	.25
350–400 miles	2,898	88	.41	----------	----------	.72	21,424	77	.27	.59
400–450 miles	2,190	81	.64	.61	79	.39	2,457	89	.45	1.47
450–500 miles	648	82	.15	.24	130	----------	375	81	1.07	1.87
500–550 miles	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
550–600 miles	1,186	80	----------	----------	----------	2.36	----------	----------	----------	----------

BY MONTHS.

Month.	Straight shipments.[1]						Mixed shipments.[2]			
January	2,097	82	0.09	----------	----------	0.19	5,309	83	0.21	0.87
February	816	77	.12	----------	----------	1.59	2,575	82	.47	.97
March	1,834	73	----------	----------	----------	.27	3,906	75	.15	.45
April	1,137	70	----------	----------	----------	.35	5,352	66	.24	.37
May	1,161	76	----------	----------	----------	.17	3,742	74	.11	.08
June	2,548	75	.04	----------	----------	.16	3,351	71	.03	.27
July	2,446	74	.53	----------	----------	.16	2,741	69	.07	.15
August	4,218	87	.19	----------	----------	.57	6,408	74	.16	.20
September	4,200	83	.09	----------	----------	.38	7,289	75	.11	.51
October	4,123	86	.07	----------	----------	.34	10,548	67	.13	.60
November	4,287	87	.09	----------	----------	.56	9,291	79	.11	.43
December	1,899	88	.58	----------	----------	.85	5,029	79	.18	.60

Division of Cost of Marketing.

[1] Straight shipments contain but one species of livestock.
[2] Mixed shipments contain more than one species of livestock.

TABLE 558.—*Sheep: Principal terminal marketing costs, six markets, 1921.*

Market.	Number of head upon which figures are based.	Cents per 1,000 pounds, home weight, straight shipments.											
		Commission.			Yardage.			Feed.			Commission, yardage and feed combined.[2]		
		Avg.[1]	Low.[1]	High.[1]	Avg.[1]	Low.[1]	High.[1]	Avg.[1]	Low.[1]	High.[1]	Avg.[1]	Low.[1]	High.[1]
Chicago	15,874	151.1	118.5	208.0	78.0	58.0	111.5	------	(3)	------	241.3	140.1	340.0
East St. Louis	1,926	166.0	140.0	243.0	102.4	91.1	125.4	------	(3)	------	277.8	254.1	301.9
Kansas City	3,390	214.6	143.0	295.0	101.2	72.0	107.5	------	(3)	------	321.9	223.0	388.1
Sioux City	1,856	134.1	116.6	167.0	81.1	60.8	104.0	10.7	7.0	21.0	267.6	184.4	327.0
Buffalo	1,271	125.1	118.2	146.6	95.8	75.2	201.0	44.1	35.7	83.8	261.2	235.9	431.4
St. Joseph	2,443	214.0	105.0	229.0	104.5	76.5	107.1	------	(3)	------	323.7	181.5	334.7

Division of Cost of Marketing. Data from Cooperative Shipping Associations in the Corn Belt.

[1] Averages are of associations shipping to the given market, weighted on the volume of business. Not based on shipments; low figures are for low cost *associations*, and high figures are for high cost *associations*. Exceptional items omitted.
[2] Feed cost if any, where not shown, is included in Commission or Yardage.
[3] Feed cost seldom incurred.

TABLE 559.—*Livestock: Estimated number raised on farms, and value, 1919–1923.*

Classes of animals.	1919		1920		1921		1922		1923, preliminary.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	Thous.	*Thous. dolls.*	*Thous.*	*Thous. dolls.*	*Thous.*	*Thous. dolls.*	*Thous.*	*Thous. dolls.*	*Thous.*	*Thous. dolls.*
Cattle	24,517	1,578,189	21,367	1,194,185	20,396	785,782	26,971	974,657	26,286	924,284
Horses	1,199	145,706	1,265	152,065	1,882	156,325	1,803	152,198	1,707	140,810
Mules	389	59,980	323	46,335	287	31,793	467	42,357	397	35,848
Sheep	15,709	134,739	12,342	94,512	15,495	67,811	17,575	124,248	18,402	142,771
Swine	64,336	2,230,498	56,500	1,575,251	61,500	1,091,128	78,878	1,272,880	77,526	1,144,681
Other	1,579	9,001	1,579	7,962	1,599	4,576	1,900	7,169	1,907	7,857

Division of Crop and Livestock Estimates.

TABLE 560.—*Livestock: Receipts, local slaughter, and stocker and feeder shipments at all public stockyards in United States, 1915–1923.*

Calendar year.	Cattle.			Hogs.			Sheep.		
	Receipts.	Local slaughter.	Stocker and feeder shipments.	Receipts.	Local slaughter.	Stocker and feeder shipments.	Receipts.	Local slaughter.	Stocker and feeder shipments.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1915	14,553	7,912	(1)	36,213	24,893	(1)	18,435	10,254	(1)
1916	17,676	10,294	3,847	43,265	30,984	194	20,692	11,228	3,277
1917	23,066	13,275	4,803	38,042	25,440	788	20,216	9,142	4,448
1918	25,295	14,874	5,013	44,863	30,441	989	22,485	10,266	5,208
1919	24,624	13,033	5,286	44,469	30,018	902	27,256	12,646	6,956
1920	22,197	12,194	4,102	42,121	26,761	728	23,538	10,981	5,180
1921	19,787	11,078	3,504	41,101	26,335	499	24,168	12,858	3,095
1922	23,217	12,435	4,929	44,067	28,737	593	22,364	10,669	4,167
1923	23,211	13,030	4,553	55,330	36,172	820	22,025	10,271	4,478

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

LIVESTOCK VALUES.

TABLE 561.—*Livestock: Combined farm values, by States, Jan. 1, 1918–1924.*

State.	Cattle, hogs, and sheep.			Horses and mules.			Total (cattle, hogs, sheep, horses, and mules).			Rank in total value.	
	Average, 1918–1922.	1923	1924	Average, 1918–1922.	1923	1924	Average, 1918–1922.	1923	1924	1923	1924
	Million dolls.	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*		
Maine	19	15	15	15	11	11	34	26	26	42	42
New Hampshire	12	9	9	5	4	4	17	13	13	46	46
Vermont	30	24	25	11	8	8	41	32	33	40	39
Massachusetts	21	16	17	8	7	6	29	23	23	44	44
Rhode Island	3	3	3	1	1	1	4	4	4	48	48
Connecticut	15	13	14	6	5	4	21	18	18	45	45
New York	180	128	129	75	60	56	255	188	185	10	10
New Jersey	22	17	16	12	10	9	34	27	25	41	43
Pennsylvania	135	102	103	72	60	54	207	162	157	12	13
Delaware	4	3	3	3	3	2	7	6	5	47	47
Maryland	26	20	20	19	15	14	45	35	34	38	38
Virginia	63	41	39	45	34	32	108	75	71	24	25
West Virginia	42	30	28	20	16	14	62	46	42	37	37
North Carolina	53	35	35	63	51	50	116	86	85	22	19
South Carolina	34	17	18	51	33	36	85	50	54	35	30
Georgia	73	37	35	78	49	48	151	86	83	23	20
Florida	37	23	22	13	10	10	50	33	32	39	40
Ohio	200	141	133	94	74	64	294	215	197	7	8
Indiana	164	118	110	86	59	52	250	177	162	11	11
Illinois	247	189	180	140	96	91	387	285	271	3	3
Michigan	129	93	96	65	55	47	194	148	143	15	14
Wisconsin	225	170	168	74	67	61	299	237	229	5	5
Minnesota	199	157	157	86	69	62	285	226	219	6	6
Iowa	418	339	308	137	107	99	555	446	407	1	1
Missouri	206	146	144	115	69	64	321	215	208	8	7
North Dakota	66	49	49	67	45	39	133	94	88	20	16
South Dakota	139	113	101	59	41	37	198	154	138	14	15
Nebraska	231	188	173	88	60	56	319	248	229	4	4
Kansas	191	137	131	113	61	55	304	198	186	9	9
Kentucky	76	48	43	68	46	39	144	94	82	19	23
Tennessee	67	44	36	72	51	46	139	95	82	18	22
Alabama	58	31	28	56	41	41	114	72	69	26	26
Mississippi	61	31	28	61	43	44	122	74	72	25	24
Louisiana	45	23	22	42	32	28	87	55	50	32	34
Texas	280	175	175	176	122	127	456	297	302	2	2
Oklahoma	98	55	42	85	47	40	183	102	82	16	21
Arkansas	52	24	20	58	37	29	110	61	49	29	35
Montana	90	72	68	40	25	20	130	97	88	17	17
Wyoming	81	54	53	13	7	6	94	61	59	30	29
Colorado	104	73	69	35	21	19	139	94	88	21	18
New Mexico	75	43	44	14	10	8	89	53	52	33	33
Arizona	58	47	44	11	9	9	69	56	53	31	31
Utah	46	40	41	11	9	8	57	49	49	36	36
Nevada	33	24	24	4	2	3	37	26	27	43	41
Idaho	64	49	49	23	16	14	87	65	63	27	28
Washington	41	31	36	29	19	17	70	50	53	34	32
Oregon	67	44	49	26	21	17	93	65	66	28	27
California	157	128	129	46	34	33	203	162	162	13	12
United States	4,737	3,409	3,281	2,491	1,772	1,634	7,228	5,181	4,915	.....	.....

Division of Crop and Livestock Estimates.

TABLE 562.—*Livestock: Animals slaughtered at Federal-inspected plants, 1907–1923.*

Year ending June 30.	Cattle.	Calves.	Sheep.	Goats.	Swine.	Horses.	Total.
1906–7	7, 621, 717	1, 763, 574	9, 661, 876	52, 149	31, 815, 900	----------	50, 935, 216
1907–8	7, 116, 275	1, 995, 487	9, 702, 545	45, 953	35, 113, 077	----------	53, 973, 337
1908–9	7, 325, 337	2, 046, 711	10, 802, 908	69, 193	35, 427, 931	----------	55, 672, 075
1909–10	7, 962, 189	2, 295, 099	11, 149, 937	115, 811	27, 656, 021	----------	49, 179, 057
1910–11	7, 781, 030	2, 219, 908	13, 005, 502	54, 145	29, 916, 363	----------	52, 976, 948
1911–12	7, 532, 005	2, 242, 929	14, 208, 724	63, 983	34, 966, 378	----------	59, 014, 019
1912–13	7, 155, 839	2, 098, 484	14, 724, 465	56, 556	32, 287, 538	----------	56, 322, 882
1913–14	6, 724, 117	1, 814, 904	14, 958, 834	121, 827	33, 289, 705	----------	56, 909, 387
1914–15	6, 964, 502	1, 735, 902	12, 909, 089	165, 533	36, 247, 858	----------	58, 022, 884
1915–16	7, 404, 288	2, 048, 022	11, 985, 926	180, 356	40, 482, 799	----------	62, 101, 391
1916–17	9, 299, 489	2, 679, 745	11, 343, 418	174, 649	40, 210, 847	----------	63, 708, 148
1917–18	10, 938, 287	3, 323, 077	8, 709, 498	149, 503	35, 449, 247	----------	58, 629, 612
1918–19	11, 241, 991	3, 674, 227	11, 268, 370	125, 660	44, 398, 389	----------	70, 708, 637
1919–20	9, 709, 819	4, 227, 558	12, 334, 827	77, 270	38, 961, 914	1, 089	65, 332, 477
1920–21	8, 179, 572	3, 896, 207	12, 452, 435	20, 027	37, 702, 866	1, 335	62, 252, 442
1921–22	7, 871, 457	3, 924, 255	11, 968, 434	13, 758	39, 416, 439	1, 898	63, 196, 241
1922–23	9, 029, 536	4, 337, 780	11, 403, 703	25, 129	48, 600, 069	1, 459	73, 397, 676

Bureau of Animal Industry.

MEAT PRODUCTS.

TABLE 563.—*Meat and meat products[1] prepared under Federal inspection, 1907–1923.*

Year ending June 30.	Placed in cure.	Sausage chopped.	Canned meats.	Lard.	Lard compounds and substitutes.	Oleo products.	Oleomargarine.	All other products.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs*	*1,000 lbs.*	*1,000 lbs.*
1906–7	2, 393, 695	267, 760	105, 196	1, 003, 602	353, 549	283, 971	55, 694	746	4, 464, 213
1907–8	3, 059, 814	416, 200	92, 582	1, 433, 778	436, 448	293, 425	79, 380	146, 671	5, 958, 298
1908–9	2, 912, 759	457, 095	123, 810	1, 306, 986	488, 249	295, 889	91, 068	1, 113, 581	6, 791, 437
1909–10	2, 424, 667	485, 864	127, 263	948, 468	671, 526	296, 429	139, 158	1, 130, 589	6, 223, 964
1910–11	2, 788, 054	488, 814	144, 942	1, 185, 503	672, 845	330, 688	117, 848	1, 205, 539	6, 934, 233
1911–12	2, 828, 061	523, 893	153, 871	1, 309, 140	648, 443	297, 038	128, 319	1, 300, 794	7, 279, 559
1912–13	2, 702, 477	531, 626	115, 237	1, 222, 857	670, 802	264, 705	145, 356	1, 441, 750	7, 094, 810
1913–14	2, 728, 550	542, 017	120, 473	1, 187, 963	590, 409	274, 625	143, 999	1, 445, 260	7, 033, 296
1914–15	3, 150, 693	502, 675	235, 963	1, 277, 734	520, 899	273, 049	145, 931	1, 426, 126	7, 533, 070
1915–16	3, 096, 391	565, 047	164, 200	1, 277, 870	397, 089	287, 047	152, 388	1, 534, 962	7, 474, 994
1916–17	3, 206, 074	635, 860	283, 319	1, 119, 315	466, 198	279, 197	225, 074	1, 448, 596	7, 663, 633
1917–18	3, 443, 993	624, 827	468, 633	943, 851	453, 164	263, 630	265, 335	1, 431, 752	7, 905, 185
1918–19	4, 047, 787	607, 602	632, 259	1, 256, 043	469, 732	266, 808	251, 170	1, 577, 641	9, 169, 042
1919–20	3, 100, 776	682, 521	211, 521	1, 316, 918	328, 567	304, 992	217, 561	1, 552, 302	7, 755, 158
1920–21	2, 630, 543	583, 777	86, 240	1, 487, 820	339, 366	253, 397	151, 638	1, 595, 039	7, 127, 820
1921–22	2, 870, 023	566, 626	109, 481	1, 659, 331	312, 014	268, 034	118, 197	1, 521, 410	7, 427, 116
1922–23	3, 585, 622	679, 315	160, 132	2, 017, 939	336, 843	278, 137	129, 767	1, 700, 792	8, 888, 547

Bureau of Animal Industry.

[1] The above figures do not represent production, as a product may be inspected more than once in course of further manufacture

TABLE 564.—*Livestock: Condemnations of animals and primal parts under Federal meat inspection, 1907–1923.*

Year ending June 30—	Cattle.		Calves.		Sheep.		Goats.		Swine.		Horses.		Total.	
	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.
1906–7	27, 933	93, 174	6, 414	245	9, 524	296	42	------	105, 879	436, 161	------	------	149, 792	529, 876
1907–8	33, 216	67, 482	5, 854	396	8, 090	198	33	1	127, 933	636, 589	------	------	175, 126	704, 666
1908–9	35, 103	99, 739	8, 213	409	10, 747	179	82	1	86, 912	799, 300	------	------	141, 057	899, 628
1909–10	42, 426	122, 167	7, 524	500	11, 127	24, 714	226	1	52, 439	726, 829	------	------	113, 742	874, 211
1910–11	39, 402	123, 909	7, 654	781	10, 789	7, 394	61	------	59, 477	877, 528	------	------	117, 383	1, 009, 672
1911–12	50, 363	134, 783	8, 927	1, 212	15, 402	3, 871	84	1	129, 002	323, 992	------	------	203, 778	463, 859
1912–13	50, 775	130, 139	9, 216	1, 377	16, 657	939	76	1	173, 937	373, 993	------	------	250, 661	506, 449
1913–14	48, 356	138, 065	6, 696	1, 234	20, 563	1, 564	746	8	204, 942	422, 275	------	------	281, 303	563, 166
1914–15	52, 665	178, 409	6, 380	1, 750	17, 650	298	658	14	232, 606	464, 217	------	------	309, 958	644, 688
1915–16	57, 673	188, 915	6, 840	1, 988	15, 063	1, 007	667	161	206, 711	546, 290	------	------	286, 954	738, 361
1916–17	78, 773	249, 637	10, 168	2, 937	16, 758	413	1, 351	42	164, 682	528, 288	------	------	271, 732	781, 307
1917–18	68, 208	178, 940	8, 127	2, 308	12, 568	227	419	------	116, 943	347, 006	------	------	206, 265	528, 481
1918–19	59, 636	166, 791	9, 220	2, 479	14, 385	330	318	17	131, 274	433, 433	------	------	214, 833	603, 050
1919–20	58, 621	194, 056	13, 820	2, 866	20, 081	627	135	1	135, 477	550, 580	64	4	228, 148	748, 136
1920–21	46, 881	176, 762	7, 720	2, 323	12, 682	270	23	10	124, 208	492, 132	19	7	191, 533	671, 504
1921–22	55, 188	166, 935	11, 409	2, 376	10, 498	496	30	21	162, 926	697, 393	30	------	240, 071	867, 221
1922–23	73, 330	176, 332	11, 824	2, 383	13, 325	292	81	4	199, 689	832, 317	14	1	298, 263	1, 011, 329

Bureau of Animal Industry.

TABLE 565.—*Meat: Yearly production, 1907–1923.*

Calendar year.	Slaughter.									
	Beef.			Veal.			Total beef and veal.	Lamb and mutton.		
	Under Federal inspection.	Other.	Total.	Under Federal inspection.	Other.	Total.		Under Federal inspection.	Other.	Total.
	Million pounds.	*Million pounds.*	*Million pounds.*	*Million pounds.*	*Million pounds.*	*Million pounds.*	*Million pounds.*	*Million pounds.*	*Million pounds.*	*Million pounds.*
1907	4,336	2,983	7,319	210	416	626	7,945	431	128	559
1908	3,955	2,721	6,676	203	402	605	7,281	428	127	555
1909	4,189	2,882	7,071	230	454	684	7,755	466	138	604
1910	4,064	2,679	6,733	235	452	687	7,420	463	137	600
1911	3,984	2,513	6,497	229	428	657	7,154	569	169	738
1912	3,731	2,189	5,920	239	429	668	6,588	608	180	788
1913	3,595	2,318	5,913	176	312	488	6,401	569	169	738
Av. 1909–1913	3,911	2,516	6,427	222	415	637	7,064	535	159	694
1914	3,601	2,038	5,639	158	275	433	6,072	555	165	720
1915	3,979	1,837	5,816	168	260	428	6,244	482	144	626
1916	4,362	1,756	6,118	220	316	536	6,654	472	140	612
1917	5,169	1,517	6,686	296	366	662	7,348	364	109	473
1918	5,638	1,682	7,320	352	413	765	8,085	381	108	489
1919	4,774	1,509	6,283	378	426	804	7,087	470	132	602
1920	4,578	1,885	6,463	402	436	838	7,301	423	115	538
Av. 1914–1920	4,586	1,746	6,332	282	356	638	6,970	450	130	580
1921	4,113	2,081	6,194	367	381	748	6,942	494	107	601
1922	4,610	2,137	6,747	396	397	793	7,540	418	116	534
1923	4,725	2,191	6,916	444	427	871	7,787	447	123	570

Calendar year.	Slaughter.				Percentage of total production.					
	Pork.			Total all meats.[1]	Beef.	Veal.	Beef and veal.	Lamb and mutton.	Pork.	Total meats.
	Under Federal inspection.	Other.	Total.							
	Million pounds.	*Million pounds.*	*Million pounds.*	*Million pounds.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1907	4,420	3,071	7,491	15,995	45.8	3.9	49.7	3.5	46.8	100
1908	4,853	3,373	8,226	16,062	41.5	3.8	45.3	3.5	51.2	100
1909	3,946	2,744	6,690	15,049	47.0	4.5	51.5	4.0	44.5	100
1910	3,470	2,411	5,881	13,901	48.5	4.9	53.4	4.3	42.3	100
1911	4,431	3,080	7,511	15,403	42.2	4.2	46.4	4.8	48.8	100
1912	4,242	2,947	7,189	14,565	40.6	4.6	45.2	5.4	49.4	100
1913	4,420	3,072	7,492	14,631	40.4	3.3	43.7	5.1	51.2	100
Av. 1909–1913	4,102	2,851	6,953	14,710	43.7	4.3	48.0	4.7	47.2	100
1914	4,264	2,964	7,228	14,020	40.2	3.1	43.3	5.1	51.6	100
1915	4,749	3,101	7,850	14,720	39.5	2.9	42.4	4.3	53.3	100
1916	5,186	3,323	8,509	15,775	38.8	3.4	42.2	3.9	53.9	100
1917	4,071	2,830	6,901	14,722	45.4	4.5	49.9	3.2	46.9	100
1918	5,551	3,303	8,854	17,429	42.0	4.4	46.4	2.8	50.8	100
1919	5,584	3,349	8,933	16,622	37.8	4.8	42.6	3.6	53.7	100
1920	5,133	3,060	8,193	16,032	40.3	5.2	45.5	3.4	51.1	100
Av. 1914–1920	4,934	3,133	8,067	15,617	40.5	4.1	44.6	3.7	51.7	100
1921	5,363	3,124	8,487	16,030	38.6	4.7	43.3	3.7	52.9	100
1922	5,809	3,293	9,162	17,236	39.1	4.6	43.7	3.1	53.2	100
1923	7,242	3,940	11,182	19,539	35.4	4.5	39.9	2.9	57.2	100

Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry. Quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

[1] Not including goat meat.

TABLE 566.—*Meat: Yearly consumption, 1907–1923.*

Calendar year.	Consumption.						Percentage of total consumption.					
	Beef.	Veal.	Total beef and veal.	Lamb and mutton.	Pork.	Total meats.[1]	Beef.	Veal.	Total beef and veal.	Lamb and mutton.	Pork.	Total meats.
	Million lbs.	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1907	6,967	626	7,593	558	6,477	14,628	47.6	4.3	51.9	3.8	44.3	100
1908	6,448	605	7,053	554	7,607	15,214	42.4	4.0	46.4	3.6	50.0	100
1909	6,908	684	7,592	602	6,218	14,412	47.9	4.8	52.7	4.2	43.1	100
1910	6,623	687	7,310	598	5,568	13,476	49.1	5.1	54.2	4.4	41.4	100
1911	6,405	657	7,062	735	7,055	14,852	43.1	4.4	47.5	5.0	47.5	100
1912	5,864	668	6,532	783	6,749	14,064	41.7	4.7	46.4	5.6	48.0	100
1913	5,902	488	6,390	733	7,037	14,160	41.7	3.4	45.1	5.2	49.7	100
Av. 1909–1913	6,340	637	6,977	690	6,525	14,193	44.7	4.5	49.2	4.9	45.9	100
1914	5,804	438	6,242	733	6,889	13,864	41.9	3.2	45.0	5.3	49.7	100
1915	5,559	429	5,988	631	6,969	13,588	40.9	3.2	44.1	4.6	51.3	100
1916	5,770	537	6,307	619	7,370	14,296	40.4	3.8	44.1	4.3	51.6	100
1917	6,243	663	6,906	473	5,975	13,354	46.8	5.0	51.8	3.5	44.7	100
1918	6,753	766	7,519	483	6,997	14,999	45.0	5.1	50.1	3.2	46.7	100
1919	6,090	809	6,899	607	7,200	14,706	41.4	5.5	46.9	4.1	49.0	100
1920	6,514	846	7,360	537	7,350	15,247	42.7	5.5	48.3	3.5	48.2	100
Av. 1914–1920	6,105	641	6,746	583	6,964	14,293	42.7	4.5	47.2	4.1	48.7	100
1921	6,230	752	6,982	673	7,869	15,524	40.1	4.8	45.0	4.3	50.7	100
1922	6,711	798	7,509	545	8,306	16,360	41.0	4.9	45.9	3.3	50.8	100
1923	6,918	873	7,791	574	10,113	18,478	37.4	4.7	42.2	3.1	54.7	100

Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry. Quantities based on carcass weight; edible offal not included b[illegible] of the variable percentage used in edible products. Subject to revision.

[1] Not including goat meat.

TABLE 567.—*Meat and lard: Annual per capita consumption, 1907–1923.*

Calendar year.	Beef.	Veal.	Mutton and lamb.	Pork, excluding lard.	Total meat.[1]	Lard.	Total meat and lard.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1907	79.7	7.1	6.4	74.1	167.3	12.5	179.8
1908	72.4	6.8	6.2	85.4	170.8	14.3	185.1
1909	76.2	7.5	6.6	68.6	158.9	11.6	170.5
1910	71.8	7.4	6.5	60.3	146.0	10.5	156.5
1911	68.4	7.0	7.8	75.1	158.3	11.8	170.1
1912	61.7	7.0	8.2	70.6	147.5	11.4	158.9
1913	60.8	5.0	7.6	72.5	145.9	11.7	157.6
Av. 1909–1913	67.8	6.8	7.3	69.4	151.3	11.4	162.7
1914	59.3	4.4	7.5	70.3	141.5	12.1	153.6
1915	56.0	4.3	6.4	70.2	136.9	13.2	150.1
1916	57.3	5.3	6.2	73.1	141.9	14.4	156.3
1917	61.1	6.5	4.6	58.5	130.7	11.9	142.6
1918	65.2	7.4	4.7	67.6	144.9	13.6	158.5
1919	58.0	7.7	5.8	68.6	140.1	12.8	152.9
1920	61.2	7.9	5.0	69.0	143.1	13.1	156.2
Av. 1914–1920	59.7	6.2	5.8	68.2	139.9	13.0	152.9
1921	57.8	7.0	6.2	72.9	143.9	11.3	155.2
1922	61.4	7.3	5.0	76.0	149.7	14.1	163.8
1923	62.5	7.9	5.2	91.4	167.0	16.4	183.4

Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry; quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

[1] Not including goat meat.

TABLE 568.—*Livestock and meat: Live and dressed weights, 1922 and 1923.*

Month	Cattle.				Calves.				Hogs.				Sheep and lambs.			
	Average live weight.		Dressed weight as a percentage of live weight.		Average live weight.		Dressed weight as a percentage of live weight.		Average live weight.		Dressed weight as a percentage of live weight.		Average live weight.		Dressed weight as a percentage of live weight.	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
	Lbs.	*Lbs.*	*Pct.*	*Pct.*	*Lbs.*	*Lbs.*	*Pct.*	*Pct.*	*Lbs.*	*Lbs.*	*Pct.*	*Pct.*	*Lbs.*	*Lbs.*	*Pct.*	*Pct.*
January	1,019.7	979.7	54	54	163.9	168.4	56	59	224.3	227.3	78	78	84.2	87.6	47	48
February	1,004.8	973.5	54	55	156.7	162.7	57	59	222.2	227.6	77	78	85.0	88.2	47	47
March	1,012.8	973.1	55	55	142.7	148.8	57	59	222.9	227.8	77	78	85.4	85.1	47	47
April	1,009.3	970.5	56	56	134.2	141.8	58	58	224.7	228.8	77	77	83.0	82.0	48	48
May	1,002.1	949.7	56	56	146.6	146.4	57	58	226.5	223.5	77	76	77.8	78.1	49	49
June	982.4	955.3	56	55	156.4	161.8	56	58	231.3	227.7	77	77	71.9	76.0	49	48
July	985.5	942.2	55	54	171.6	176.8	57	57	239.4	232.1	77	76	72.7	75.4	49	49
August	972.8	933.4	54	54	192.7	196.0	57	56	241.5	236.2	75	78	76.0	76.9	48	48
September	965.4	939.1	53	53	199.7	204.5	56	55	234.2	229.3	76	75	77.7	78.0	48	48
October	957.8	940.0	52	53	197.2	199.7	54	56	219.5	219.5	76	75	80.2	79.6	48	48
November	946.2	933.5	52	54	188.6	189.4	56	57	214.8	215.7	76	76	83.4	76.8	48	51
December	957.5	952.4	53	52	176.1	181.3	58	57	220.1	217.8	77	76	85.8	83.1	48	47
Weighted average	981.1	952.9	54	54	169.7	172.8	56	57	226.0	225.3	76	77	80.0	80.8	48	48

Division of Statistical and Historical Research.

TABLE 569.—*Meats, fresh: Monthly supply at eastern markets, 1923.*

RECEIPTS.

Market, and month	Carcasses.							Cuts.			
	Steers.	Cows.	Bulls.	Veal.	Hogs.	Lambs.	Mutton.	Beef	Pork.	Veal.	Lamb
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Boston:											
January	9,893	10,017	256	4,455	114	60,116	4,452	7,200	1,702,551	------	------
February	8,877	7,663	277	3,060	42	46,017	4,254	------	989,824	------	------
March	9,664	6,354	186	3,840	------	52,304	4,173	2,997	1,031,126	------	------
April	10,181	4,350	200	6,665	10	52,125	1,900	------	954,933	------	------
May	14,482	3,834	343	6,416	------	57,352	4,394	------	865,242	------	------
June	11,378	2,547	287	4,928	------	37,703	3,174	25	542,986	------	------
July	9,417	1,980	84	2,724	------	36,924	1,866	------	392,727	------	------
August	15,386	3,765	392	4,645	------	51,016	1,803	41,383	994,882	------	------
September	11,394	4,341	136	2,725	------	46,587	1,832	8,165	489,124	------	------
October	14,769	8,231	181	5,503	131	67,653	3,406	2,448	778,143	------	------
November	8,373	6,713	116	5,248	210	46,145	1,942	17,788	820,743	------	------
December	9,301	5,630	228	3,450	------	48,890	1,793	16,302	908,944	------	------
Total	133,115	65,434	2,686	53,659	507	602,832	34,989	96,308	10,471,225	------	------
New York:											
January	35,874	6,089	2,100	50,384	13,981	112,317	40,810	943,837	7,119,415	600	230
February	28,853	4,728	3,533	32,956	11,789	91,355	30,018	690,901	5,369,385	9,372	[1]18,566
March	26,323	4,011	1,806	45,071	9,922	94,983	27,635	829,910	5,835,127	100	30,680
April	30,191	3,072	5,301	49,910	9,213	106,236	13,442	670,574	5,157,782	4,984	1,005
May	41,952	2,354	5,951	61,005	11,425	97,213	37,101	791,620	5,703,129	6,239	[1]32,700
June	30,878	2,324	1,874	47,797	8,777	68,679	24,014	766,518	5,093,775	78,244	48,945
July	29,859	2,229	950	43,279	4,809	80,089	20,741	367,951	3,146,018	86,658	33,199
August	41,902	3,525	2,009	51,292	10,404	82,671	17,155	706,914	4,361,132	43,543	[1]9,090
September	34,286	4,106	1,201	39,362	7,112	82,133	24,507	530,393	3,899,980	30,558	30,722
October	43,876	4,379	1,440	57,378	23,056	118,794	29,795	820,914	6,249,599	57,746	34,975
November	28,832	3,798	765	43,454	18,708	71,808	19,688	637,024	6,264,130	------	------
December	27,990	3,965	773	39,023	14,158	73,356	21,267	644,601	5,678,328	10,010	------
Total	400,816	44,580	27,703	560,911	143,354	1,079,634	306,173	8,401,118	63,877,800	328,054	246,112
Philadelphia:											
January	14,594	3,534	601	9,370	------	39,469	12,460	------	2,034,739	------	------
February	11,732	1,788	97	6,512	------	25,533	9,637	------	1,953,692	------	------
March	9,188	1,870	238	7,164	------	25,971	6,202	------	1,709,717	------	------
April	11,200	1,728	368	7,371	------	32,175	5,412	------	1,719,197	------	------
May	14,564	1,665	1,269	11,739	------	30,070	9,878	------	1,813,219	------	------
June	10,241	1,445	867	6,979	------	21,444	6,659	------	1,297,043	------	------
July	9,668	2,207	683	5,545	------	22,693	5,220	------	1,151,139	------	------
August	13,047	3,526	1,519	7,863	------	23,857	3,754	------	1,689,322	------	------
September	10,377	2,890	1,092	7,277	------	22,446	7,080	------	1,136,213	------	------
October	13,685	2,845	1,056	7,409	------	34,021	6,271	------	1,724,166	------	------
November	9,633	2,248	712	6,204	------	23,348	6,661	------	2,231,269	------	------
December	9,785	3,292	838	6,751	------	29,324	6,454	------	2,204,831	------	------
Total	138,214	29,036	9,340	90,374	------	330,351	85,688	------	21,564,547	------	------

[1] Includes 491 pounds of mutton for February, 19,345 pounds for May, and 8,990 pounds for August.

TABLE 569.—*Meats, fresh: Monthly supply at eastern markets, 1923*—Continued.

SLAUGHTER.

Market, and month.	Under Federal inspection.				Under city inspection.			
	Cattle.	Calves.	Hogs.	Sheep.	Cattle.	Calves.	Hogs.	Sheep.
Boston:	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
January	7,171	8,766	136,383	28,602	11	1,155	7,706	2
February	5,311	5,213	84,086	21,144	15	2,813	5,206	16
March	5,364	7,339	74,124	15,738	14	5,448	4,954	----------
April	5,506	8,680	71,323	22,310	12	4,481	4,622	----------
May	6,914	11,885	74,012	29,600	9	2,387	5,422	----------
June	4,978	8,484	79,871	25,624	4	472	3,509	----------
July	4,999	6,992	79,261	23,558	5	966	4,662	11
August	8,405	8,302	93,413	41,692	27	1,415	3,594	28
September	6,165	5,709	61,427	30,981	67	1,241	3,141	67
October	12,106	9,513	87,968	35,809	430	1,546	5,601	3
November	10,598	7,621	116,325	32,847	146	1,008	4,113	18
December	8,870	5,751	134,110	27,486	249	1,061	5,199	14
Total	86,387	94,255	1,092,303	335,401	989	23,903	57,729	159
New York:								
January	51,620	57,166	299,758	193,787	1	14,124	625	911
February	39,856	48,660	231,145	137,147	----------	13,583	227	1,578
March	40,008	57,859	217,569	135,442	----------	16,097	229	2,911
April	42,974	71,006	204,120	157,078	1	15,442	178	2,936
May	50,511	83,712	248,253	185,325	4	12,885	60	2,214
June	36,030	59,254	169,958	158,809	----------	4,977	14	331
July	37,726	55,573	170,487	173,833	----------	4,068	29	41
August	48,059	65,685	215,340	235,511	20	4,370	----------	86
September	35,594	51,488	183,887	184,119	10	6,353	88	29
October	50,545	62,716	278,296	217,460	----------	10,043	797	272
November	38,611	47,324	244,302	181,685	24	6,474	2,873	349
December	39,676	47,763	284,231	189,121	20	8,873	1,357	607
Total	511,210	708,206	2,747,346	2,149,317	80	117,289	6,477	12,265
Philadelphia:								
January	9,756	6,228	102,202	19,653	1,095	4,557	2,653	8,267
February	7,986	4,454	87,641	15,506	840	2,737	1,475	5,039
March	7,837	5,295	85,075	14,456	834	2,793	1,005	4,442
April	8,842	6,958	85,462	17,511	892	3,976	768	7,791
May	11,272	9,798	106,497	20,837	945	4,851	769	8,951
June	8,489	7,041	70,761	16,840	449	3,636	538	7,693
July	7,606	6,003	68,861	16,716	610	3,908	465	7,989
August	10,027	7,489	89,735	25,883	654	3,066	499	8,801
September	7,878	5,101	83,116	18,190	923	2,162	967	6,475
October	10,487	6,212	121,666	18,198	1,552	4,476	2,447	9,290
November	8,111	5,952	98,537	17,364	1,248	3,146	1,648	7,001
December	8,161	4,118	101,751	15,020	1,070	3,023	1,421	6,840
Total	106,452	74,649	1,103,304	216,167	11,112	42,331	14,655	88,559

SUMMARY.

Market, and month.	Beef.		Veal.		Pork.		Lamb and mutton.	
	Carcasses.	Cuts.	Carcasses.	Cuts.	Carcasses.	Cuts.	Carcasses.	Cuts
Boston:	*Number.*	*Pounds.*	*Number.*	*Pounds.*	*Number.*	*Pounds.*	*Number.*	*Pounds.*
January	27,848	7,200	14,376	----------	144,203	1,702,551	93,172	----------
February	22,143	----------	11,086	----------	89,334	989,824	71,431	----------
March	21,582	2,997	16,627	----------	79,078	1,031,126	72,215	----------
April	20,258	----------	12,826	----------	75,955	954,933	76,335	----------
May	25,582	----------	20,088	----------	79,434	865,242	91,346	----------
June	19,194	25	13,884	----------	83,380	842,986	66,511	----------
July	16,485	----------	10,682	----------	83,923	892,727	62,359	----------
August	27,975	41,383	14,362	----------	97,007	994,882	94,539	----------
September	22,103	8,165	9,675	----------	64,568	489,124	79,467	----------
October	35,717	2,448	16,562	----------	93,700	778,143	106,871	----------
November	25,946	17,788	13,877	----------	120,648	826,743	80,952	----------
December	24,278	16,302	10,262	----------	139,309	908,944	78,183	----------
Total	288,611	96,308	171,907	----------	1,150,539	10,471,225	973,381	----------

TABLE 569.—*Meats, fresh: Monthly supply at eastern markets, 1923*—Continued.

SUMMARY—Continued.

Market, and month.	Beef.		Veal.		Pork.		Lamb and mutton.	
	Carcasses.	Cuts.	Carcasses.	Cuts.	Carcasses.	Cuts.	Carcasses.	Cuts.
New York:	*Number.*	*Pounds.*	*Number.*	*Pounds.*	*Number.*	*Pounds.*	*Number.*	*Pounds.*
January	95, 684	943, 837	121, 674	600	314, 364	7, 119, 415	347, 825	230
February	76, 970	660, 961	95, 199	9, 372	243, 161	5, 369, 385	260, 098	18, 566
March	72, 148	829, 910	119, 027	100	227, 720	5, 835, 127	260, 971	30, 080
April	81, 539	670, 574	136, 358	4, 984	213, 511	5, 157, 782	279, 692	1, 005
May	100, 772	791, 626	157, 602	6, 239	259, 738	5, 703, 129	321, 853	32, 700
June	71, 106	706, 513	112, 028	78, 244	178, 749	5, 093, 775	251, 833	48, 945
July	70, 764	867, 951	102, 920	86, 658	175, 325	3, 146, 018	274, 704	33, 199
August	95, 515	708, 914	121, 347	43, 543	225, 744	4, 361, 132	335, 423	9, 090
September	75, 197	530, 293	97, 203	30, 558	191, 087	3, 899, 080	290, 788	36, 722
October	100, 240	820, 914	130, 137	57, 746	302, 149	6, 249, 599	366, 321	34, 975
November	72, 030	637, 024	97, 252	.....	265, 883	6, 264, 130	273, 530	.....
December	72, 424	644, 601	95, 659	10, 010	299, 746	5, 678, 328	284, 351	.....
Total	984, 389	8, 401, 118	1, 386, 406	328, 054	2, 897, 177	63, 877, 800	3, 547, 389	246, 112
Philadelphia:								
January	29, 580	.....	20, 155	.....	104, 855	2, 934, 739	79, 849	.....
February	22, 443	.....	13, 703	.....	89, 116	1, 953, 692	55, 714	.....
March	19, 967	.....	15, 252	.....	86, 080	1, 709, 717	51, 071	.....
April	23, 030	.....	18, 305	.....	86, 230	1, 719, 197	62, 889	.....
May	29, 715	.....	26, 388	.....	109, 266	1, 813, 219	69, 736	.....
June	21, 491	.....	17, 656	.....	71, 299	1, 297, 043	52, 636	.....
July	20, 774	.....	15, 456	.....	69, 326	1, 151, 139	52, 592	.....
August	28, 773	.....	18, 418	.....	90, 234	1, 689, 322	62, 295	.....
September	23, 660	.....	14, 540	.....	84, 083	1, 136, 213	54, 191	.....
October	29, 625	.....	18, 097	.....	124, 113	1, 724, 166	67, 780	.....
November	21, 950	.....	15, 492	.....	100, 185	2, 231, 269	54, 374	.....
December	23, 146	.....	13, 892	.....	103, 172	2, 204, 831	57, 638	.....
Total	294, 154	.....	207, 354	.....	1, 117, 959	21, 564, 547	720, 765	.....

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 570.—*Meat and meat products: International trade, calendar years, 1911–1922.*

Country.	Average 1911-1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Argentina	3, 487	1, 173, 401	575	1, 284, 827	.....	1, 155, 799	.....	1, 372, 097
Australia	1, 967	507, 143	1, 025	316, 228	722	338, 700	.....	331, 445
Brazil	54, 012	1, 520	10, 964	195, 479	10, 232	174, 160	.....	90, 999
Canada	43, 327	60, 242	70, 111	203, 013	75, 436	158, 780	70, 211	142, 648
Chile	11, 738	19, 728	13, 592	33, 529	3, 252	56, 556	.....	.....
China	85	61, 684	1, 757	89, 599	1, 363	71, 190	2, 141	44, 701
Denmark	32, 184	368, 188	8, 170	157, 661	18, 117	237, 755	20, 832	330, 597
Netherlands	359, 864	497, 402	157, 179	287, 185	219, 781	316, 437	201, 659	321, 933
New Zealand	900	326, 539	1, 584	593, 445	1, 922	553, 426	682	458, 171
Sweden	24, 215	39, 788	58, 828	24, 999	34, 919	66, 512	45, 717	46, 326
United States	18, 719	1, 277, 524	196, 425	1, 851, 692	79, 845	1, 897, 992	77, 507	1, 780, 696
Uruguay	[1] 702	196, 911	.....	289, 410	.....	.....	.....	.....
PRINCIPAL IMPORTING COUNTRIES.								
Austria	.....	.....	155, 210	7, 516	131, 345	9, 287	.....	.....
Austria-Hungary	49, 208	12, 420	.....	.....	.....	.....	.....	.....
Belgium	179, 120	127, 057	220, 284	58, 024	191, 536	48, 723	192, 809	23, 568
Cuba	128, 362	(1) (2)	184, 678	.....	.....	.....	.....	.....
Czechoslovakia	.....	.....	.....	.....	66, 028	1, 314	114, 570	492
France	111, 496	98, 281	691, 076	81, 475	300, 528	66, 803	240, 906	94, 547
Germany	559, 752	19, 525	884, 375	4, 466	[3] 514, 808	[3] 7, 298	494, 910	19, 961

[1] One year only. [2] Less than 500 pounds [3] Eight months, May–December.

TABLE 570.—*Meats and meat products: International trade, calendar years, 1911–1922*—Continued.

Country	Average 1911–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL IMPORTING COUNTRIES.—Con.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Italy	104,619	15,708	174,708	8,507	132,992	7,418	132,419	25,208
Japan	11,727		47,580		70,528			
Norway	42,416	3,365	67,401	3,362	73,733	3,026	77,906	2,918
Philippine Islands	21,902		12,695		23,503		17,071	
Russia	130,897	53,175						
Spain	37,974	3,200	28,328	2,776	21,070	6,578	21,045	6,155
Switzerland	60,174	3,169	49,913	5,415	62,811	2,088	32,026	3,726
Union of South Africa	31,103	404	17,525	16,401	6,276	4,658	9,906	2,767
United Kingdom	2,843,605	117,226	2,854,559	98,296	3,329,020	90,134	3,197,317	74,699
Other countries	126,695	38,016	106,303	84,236	78,876	22,661	65,946	23,973
All countries:								
Beef	2,044,172	2,162,336	2,290,522	2,585,503	2,301,526	2,097,371	2,046,335	1,960,077
Mutton	611,744	560,284	876,661	636,426	835,310	608,891	701,881	697,313
Pork	1,632,382	1,638,145	2,055,395	1,939,721	1,889,300	2,190,727	1,831,212	2,071,412
Other	702,072	663,891	702,267	540,891	422,557	400,307	436,152	474,878
Total	4,990,370	5,024,656	5,924,845	5,702,541	5,448,693	5,297,296	5,015,580	5,203,680

Division of Statistical and Historical Research. Official sources.

TABLE 571.—*Meats, frozen and cured: Cold-storage holdings in United States, 1917–1923.*

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	Million lbs.	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*
1917	804	875	914	852	828	832	879	893	778	633	587	709
1918	981	1,118	1,266	1,355	1,319	1,300	1,149	1,137	1,036	905	882	938
1919	1,199	1,452	1,436	1,389	1,332	1,284	1,254	1,171	1,061	984	881	865
1920	1,016	1,187	1,279	1,304	1,252	1,209	1,194	1,115	977	784	670	656
1921	820	976	1,138	1,108	1,043	1,017	989	899	777	607	491	505
1922	567	624	681	717	713	745	817	789	727	589	512	569
1923	754	876	958	1,032	1,094	1,045	1,041	983	868	723	629	739

Division of Statistical and Historical Research.

TABLE 572.—*Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1923.*

CHICAGO.

Class of meat.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Beef:													
Steer—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Choice	17.80	17.24	16.54	16.48	16.77	17.45	17.66	18.05	18.81	18.23	18.16	19.01	17.68
Good	16.27	15.70	15.21	14.79	15.34	16.22	16.59	16.80	17.62	16.76	16.62	17.62	16.30
Medium	13.79	13.92	13.40	13.36	14.33	14.95	15.58	15.05	15.54	14.05	13.95	15.52	14.45
Common	11.12	11.42	11.08	11.55	12.88	13.75	14.08	12.87	11.95	10.18	10.40	12.28	11.96
Cow—													
Good	11.47	11.40	11.09	11.50	12.11	12.42	12.84	12.96	13.00	12.50	11.85	12.50	12.14
Medium	9.78	10.10	9.50	9.82	10.70	11.54	11.60	11.47	11.30	10.72	10.55	11.50	10.72
Common	8.17	8.50	8.61	8.91	9.86	10.18	9.75	8.50	8.10	8.29	7.76	9.00	8.80
Bull—													
Common	7.62	7.76	7.90	8.08	8.92	7.77	8.56	8.10	7.77	7.07	6.88	7.43	7.82
Veal:													
Choice	18.22	20.28	18.32	16.65	17.67	17.75	19.30	19.43	21.05	19.06	15.09	16.25	18.26
Good	16.98	18.20	16.55	15.25	15.67	16.35	17.82	17.50	19.05	17.16	13.36	14.75	16.55
Medium	14.92	15.62	15.18	13.50	13.67	14.50	15.68	14.60	15.00	14.14	11.46	12.98	14.27
Common	12.02	13.30	12.50	10.66	10.48	11.24	11.62	10.25	10.00	9.64	8.40	10.30	10.87

TABLE 572.—*Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1923*—Continued.

CHICAGO—Continued.

Class of meat.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Lamb and mutton:													
Lamb—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Choice	25.06	24.15	24.55	24.28	27.91	28.52	30.15	27.68	27.92	25.08	24.26	23.45	26.08
Good	24.06	22.70	21.80	22.15	25.71	26.45	27.72	25.54	25.92	22.94	22.50	21.72	24.10
Medium	22.06	20.78	18.82	19.12	24.07	24.45	24.95	23.56	24.18	20.88	20.53	20.08	21.96
Common	19.00	18.55	16.82	17.35	22.19	22.28	18.55	19.06	20.86	17.18	17.19	17.52	18.88
Mutton—													
Good	14.25	13.75	12.50	14.20	17.96	15.55	15.55	16.67	18.45	13.48	13.00	13.40	14.90
Medium	12.27	11.84	11.00	11.72	15.48	13.25	13.12	14.29	15.56	11.40	11.00	11.22	12.68
Common	8.53	9.11	8.50	9.42	12.93	10.62	9.90	10.58	11.48	8.70	8.50	8.50	9.73
Fresh pork cuts:													
Hams—													
12-16 pounds average	18.12	17.81	18.12	17.75	17.50	17.38	17.25	18.30	18.06	16.75	15.75	15.38	17.35
Loins—													
8-10 pounds	16.14	15.35	15.39	15.39	18.65	15.70	19.14	22.98	26.20	20.92	13.72	12.67	17.75
10-12 pounds	15.21	14.40	14.38	14.32	17.51	14.50	17.16	20.74	24.76	19.08	12.74	11.92	16.39
12-14 pounds	14.26	13.46	13.46	13.21	15.99	13.38	15.13	17.39	21.67	17.34	11.56	10.98	14.80
14-16 pounds	13.34	12.70	12.66	12.35	14.53	12.45	13.16	14.68	18.81	15.28	10.36	10.05	13.37
16 pounds and over	12.43	11.78	11.79	11.55	13.15	11.19	11.80	12.83	15.21	13.47	9.16	9.36	11.98
Shoulders—													
Skinned	12.55	11.72	11.71	11.05	10.70	9.32	9.40	10.26	12.54	11.96	10.41	9.11	10.89
Picnics—													
4-6 lbs.	11.52	11.32	10.42	10.14	9.50	8.68	9.25	9.68	11.05	10.05	9.36	9.34	10.03
6-8 lbs.	10.64	10.72	9.78	9.22	8.50	7.89	8.75	9.18	10.22	9.47	8.40	8.34	9.26
Butts—													
Boston style	13.28	13.40	12.90	11.96	11.76	10.39	11.12	12.42	17.03	14.96	10.87	9.61	12.47
Spare ribs	10.34	9.94	9.45	8.31	7.62	6.52	6.67	7.48	9.36	10.00	8.86	7.55	8.51
Cured pork cuts:													
Hams, smoked, 14-16 pounds average	19.85	19.44	19.47	20.12	19.68	19.56	19.97	21.20	21.44	21.31	20.44	20.34	20.24
Shoulders, picnics, smoked	14.42	13.19	12.75	13.12	12.75	11.81	12.97	12.80	13.00	12.84	13.22	12.83	12.98
Bacon, breakfast	21.85	21.25	21.88	22.19	23.25	23.88	24.12	24.55	24.00	22.22	21.15	18.56	22.41
Lard, tierces	13.20	13.25	13.87	13.42	13.12	13.18	12.84	12.83	15.06	15.22	15.72	15.04	13.90
Lard substitutes, tierces	13.35	13.72	14.03	14.06	13.95	13.82	13.47	12.87	14.09	14.63	14.51	14.39	13.91

NEW YORK.

Beef:													
Steer—													
Choice	18.50	16.15	15.61	15.48	16.75	17.60	18.82	19.65	20.20	19.54	18.75	19.48	17.99
Good	15.14	14.32	13.90	14.46	15.69	16.60	17.61	17.98	18.64	17.09	15.85	16.50	16.15
Medium	12.50	13.02	12.61	13.44	14.58	14.66	15.88	14.66	14.92	13.44	12.78	13.88	13.86
Common	10.96	11.32	11.00	12.13	12.56	10.59	13.49	10.63	11.60	10.19	10.41	11.88	11.40
Cow—													
Good	11.09	11.35	10.94	12.21	13.36	12.90	14.09	13.48	12.78	11.36	11.41	11.80	12.24
Medium	10.27	10.39	10.06	11.21	12.34	11.49	12.80	11.38	11.52	9.99	10.35	10.79	11.05
Common	8.67	9.35	9.24	10.31	11.47	10.36	11.98	9.18	9.98	8.58	9.08	9.60	9.82
Bull—													
Common	7.54	7.59	8.06	8.45	8.81	8.74	8.75	8.19	8.28	.....	7.81	8.12	8.21
Veal:													
Choice	20.24	22.39	18.65	17.25	18.62	17.80	20.65	21.40	23.90	22.36	17.06	19.00	19.94
Good	17.68	20.44	17.00	15.35	16.26	15.78	18.72	18.62	20.55	19.16	14.80	15.95	17.53
Medium	14.68	17.18	15.38	13.38	13.76	13.52	16.09	13.69	15.35	13.25	11.58	13.20	14.23
Common	11.90	13.40	12.12	10.79	10.90	11.58	13.82	9.81	12.35	10.04	9.54	10.90	11.43
Lamb and mutton:													
Lamb—													
Choice	25.77	24.31	24.95	24.94	28.40	30.22	27.81	28.27	28.20	24.30	24.76	24.12	26.34
Good	24.19	22.94	23.90	23.85	26.79	28.30	26.01	26.38	26.75	22.70	23.76	23.12	24.89
Medium	21.90	20.97	22.85	22.60	24.80	26.18	23.64	23.60	23.39	20.84	22.26	21.22	22.85
Common	19.82	19.92	21.02	20.80	23.58	22.72	19.72	20.01	19.36	18.06	19.26	19.00	20.27
Mutton—													
Good	15.06	14.01	14.00	16.54	16.54	14.52	17.00	18.93	15.92	14.28	15.20	15.49	15.62
Medium	13.11	12.42	12.88	15.00	14.73	12.51	14.65	15.93	13.45	12.24	12.70	13.71	13.61
Common	10.81	11.03	10.85	12.56	12.35	10.26	12.18	13.84	10.55	9.76	10.20	11.72	11.34
Fresh pork cuts:													
Hams—													
12-16 pounds average	20.00	20.00	18.75	19.25	18.50	18.38	19.00	19.50	19.88	18.50	17.75	16.50	18.83
Loins—													
8-10 pounds average	16.89	16.46	16.31	16.00	18.99	16.86	19.59	22.34	28.50	22.69	15.16	15.15	18.80
10-12 pounds	15.92	15.44	15.30	15.44	17.62	15.72	17.95	20.87	26.80	21.35	14.30	14.24	17.58

TABLE 572.—*Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1923*—Continued.

NEW YORK—Continued.

Class of meat.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Fresh pork cuts—Continued.													
Loins—Contd.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
12-14 pounds	14. 80	14. 42	14. 35	14. 10	15. 35	14. 54	16. 38	17. 81	23. 74	19. 11	13. 64	13. 51	16. 07
14-16 pounds	14. 02	13. 65	13. 28	13. 06	15. 30	13. 24	14. 96	15. 71	21. 71	17. 83	13. 02	13. 05	14. 90
16 pounds and over	13. 47	12. 90	12. 28	12. 34	14. 62	12. 08	13. 72	14. 63	19. 22	16. 69	12. 22	11. 97	13. 74
Shoulders—													
Skinned	13. 32	13. 03	12. 85	11. 92	11. 72	10. 48	10. 54	11. 37	12. 41	13. 09	11. 52	10. 63	11. 91
Picnics, 6-8 pounds	10. 96	.....	10. 65	9. 50	9. 90	8. 95	.....	9. 50	10. 65	10. 64	9. 84	9. 52	9. 95
Butts—													
Boston style	15. 38	15. 44	14. 39	13. 42	12. 76	11. 61	12. 64	12. 71	16. 14	16. 45	13. 23	11. 83	13. 83
Spare ribs	13. 75	13. 31	11. 50	11. 12	10. 60	9. 12	8. 59	9. 10	9. 62	10. 40	9. 50	8. 88	10. 40
Cured pork cuts:													
Hams, smoked, 10-12 pounds average	20. 60	20. 38	20. 75	21. 88	21. 30	21. 38	23. 38	24. 60	23. 88	23. 20	22. 25	21. 12	22. 05
Shoulders, picnics, smoked	13. 60	12. 12	12. 60	11. 69	11. 55	11. 69	12. 44	12. 75	12. 62	12. 55	12. 38	12. 62	12. 42
Bacon, breakfast	26. 00	24. 75	23. 00	23. 38	24. 10	22. 25	23. 12	23. 50	24. 25	21. 50	20. 75	20. 00	23. 05
Lard, tierces	12. 80	12. 81	12. 78	12. 69	12. 42	11. 91	12. 00	12. 10	13. 20	13. 80	14. 78	14. 94	13. 02
Lard substitutes, tierces	12. 12	12. 88	12. 44	13. 03	12. 73	12. 41	12. 50	12. 20	13. 22	13. 90	13. 35	14. 38	12. 92

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 573.—*Livestock: Freight and other marketing costs, 1921.*

Item.	Number of head upon which figures are based.	Freight.		All other costs.		Total cost.
		Per 1,000 pounds.	Percentage of total.	Per 1,000 pounds.	Percentage of total.	
South Dakota sheep to Chicago	1,186	$6. 12	66	$3. 10	34	$9. 22
Iowa cattle to Chicago	3,659	3. 80	64	2. 12	36	5. 92
Iowa hogs to Chicago	128,336	4. 02	62	2. 50	38	6. 52
South Dakota hogs to Sioux City	13,989	3. 76	62	2. 52	40	6. 28
Indiana cattle to Buffalo	288	4. 04	60	2. 74	40	6. 78
Indiana sheep to Buffalo	1,271	5. 45	60	3. 56	40	9. 01
Indiana hogs to Buffalo	17,879	4. 43	59	3. 07	41	7. 50
South Dakota cattle to Sioux City	1,097	3. 33	59	2. 29	41	5. 62
South Dakota sheep to Sioux City	1,723	3. 83	56	3. 05	44	6. 88
Ohio hogs to Pittsburgh	31,907	3. 22	54	2. 69	46	5. 91
Illinois hogs to Chicago	148,108	2. 68	54	2. 26	46	4. 94
Kansas hogs to Kansas City	14,971	2. 66	53	2. 33	47	4. 99
Illinois cattle to Chicago	2,200	2. 14	52	2. 01	48	4. 15
Ohio cattle to Pittsburgh	1,046	2. 96	52	2. 68	48	5. 64
Wisconsin cattle to Chicago	71	2. 40	52	2. 25	48	4. 65
Wisconsin hogs to Milwaukee	14,711	2. 26	52	2. 10	48	4. 35
Indiana hogs to Pittsburgh	5,397	3. 73	52	3. 39	48	7. 12
Ohio cattle to Cleveland	2,424	2. 39	51	2. 32	49	4. 71
Iowa hogs to Omaha	4,853	2. 23	50	2. 22	50	4. 45
Kansas hogs to St. Joseph	7,595	2. 63	50	2. 62	50	5. 25
Ohio hogs to Cleveland	8,372	2. 69	49	2. 75	51	5. 44
Indiana cattle to Pittsburgh	399	3. 08	49	3. 20	51	6. 29
Wisconsin cattle to Milwaukee	596	1. 73	48	1. 88	52	3. 61
Minnesota hogs to St. Paul	7,216	2. 52	48	2. 71	52	5. 23
Minnesota sheep to St. Paul	818	2. 98	46	3. 49	54	6. 47
South Dakota hogs to Sioux Falls	14,908	1. 86	41	2. 67	59	4. 53
South Dakota cattle to Sioux Falls	797	1. 67	41	2. 36	59	4. 03

Division of Cost of Marketing. Data from 237 cooperative shipping associations in the Corn Belt.

HIDES AND SKINS.

TABLE 574.—*Hides and skins: Quarterly stocks of hides in United States, 1921–1923.*

RAW PACKER.

Description and calendar year.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.	Description and calendar year.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*		*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Steers:					Mixed cattle:				
1921	1,564	1,532	1,451	1,090	1921	265	378	273	305
1922	1,255	1,493	1,342	1,370	1922	242	202	208	241
1923	1,448	1,532	1,590	1,166	1923	239	188	164	210
Cows:					Calfskins:				
1921	2,251	1,537	1,169	1,173	1921	913	1,073	775	534
1922	1,145	1,654	1,186	1,584	1922	703	713	670	596
1923	1,368	1,182	1,279	1,492	1923	731	683	584	509
Bulls:					Kipskins:				
1921	188	165	162	125	1921	377	200	240	193
1922	100	99	132	144	1922	124	87	196	274
1923	138	111	148	161	1923	234	142	220	188

DOMESTIC AND FOREIGN CATTLE HIDES (OTHER THAN PACKER).

Calf, dry or dry salted:					Steers, green salted:				
1921	384	456	590	564	1921	685	545	354	389
1922	486	378	572	760	1922	291	202	340	405
1923	316	420	544	318	1923	444	522	282	133
Calf, green salted:					Mixed cattle, green salted:				
1921	1,763	2,362	2,110	1,870	1921	1,109	847	1,191	1,021
1922	1,775	2,507	2,432	1,942	1922	801	706	790	787
1923	1,643	2,362	1,516	1,357	1923	1,081	813	698	705
Cattle, dry or dry salted:					Kip, dry or dry salted:				
1921	984	885	987	1,012	1921	20	46	61	45
1922	1,064	968	1,020	1,143	1922	461	455	447	319
1923	1,217	1,144	872	595	1923	258	356	206	111
Bulls, green salted:					Kip, green salted:				
1921	58	76	54	58	1921	396	254	269	392
1922	54	44	37	37	1922	330	334	348	570
1923	45	42	43	41	1923	518	397	359	453
Cows, green salted:									
1921	703	1,105	496	775					
1922	660	579	462	636					
1923	768	551	412	582					

MISCELLANEOUS HIDES AND SKINS.

Buffalo hides:					Horse, colt, ass, and mule fronts:				
1921	211	188	170	141	1921	43	57	57	62
1922	138	139	156	109	1922	44	62	94	115
1923	117	180	117	88	1923	145	139	97	101
Cabretta skins:					Horse, colt, ass, and mule shanks:				
1921	1,579	1,219	791	547	1921	72	109	65	60
1922	361	878	810	930	1922	56	42	60	154
1923	966	1,128	914	736	1923	36	92	23	95
Calf and kip skins (domestic):					Kangaroo and Wallaby skins:				
1921	4,302	4,926	4,413	3,990	1921	410	363	359	389
1922	3,881	4,474	4,664	4,462	1922	268	240	177	243
1923	3,700	4,366	3,429	2,935	1923	335	456	358	486
Cattle and kip hides and skins (foreign tanned):					Pig and hog skins:				
1921	293	240	202	151	1921	251	120	89	97
1922	124	62	46	75	1922	111	111	106	96
1923	76	72	23	19	1923	88	55	65	71
Cattle hides:					Pig and hog strips (pounds):				
1921	7,807	7,078	6,086	5,819	1921	1,163	859	349	517
1922	5,662	5,347	5,515	6,348	1922	226	483	390	319
1923	6,749	6,086	5,487	5,086	1923	412	604	645	575
Deer and elk skins:					Sheep and lamb skins:				
1921	119	212	216	275	1921	12,971	13,755	12,606	12,661
1922	136	166	187	188	1922	11,941	10,971	10,475	9,151
1923	192	327	274	309	1923	8,510	8,916	9,208	7,400
Goat and kid skins:					Skivers and fleshers (pieces):				
1921	8,652	9,660	10,746	10,380	1921	1,611	1,778	1,784	1,770
1922	8,044	10,799	8,641	8,730	1922	1,732	1,858	2,031	2,141
1923	7,779	10,167	10,999	9,926	1923	1,540	1,668	1,594	1,408
Horse, colt, ass, and mule hides:									
1921	385	386	306	260					
1922	254	140	169	128					
1923	166	128	109	111					
Horse, colt, ass, and mule butts:									
1921	222	193	191	207					
1922	220	224	310	456					
1923	491	448	186	166					

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Census.

TABLE 575.—*Hides and skins: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Algeria	3,103	9,335	1,290	8,781	955	10,484	2,184	10,425
Argentina	207	293,950	----------	181,138	----------	210,158	----------	368,259
Brazil	----------	83,252	----------	90,744	----------	99,700	----------	----------
British India	20,376	169,857	10,585	91,971	8,040	92,318	6,171	101,738
Canada	46,820	45,469	33,772	33,501	25,356	36,716	44,131	50,455
Chile	41	13,235	279	13,985	84	9,886	----------	----------
China	2,317	72,751	3,222	68,523	4,618	55,508	6,943	62,552
Cuba	166	14,293	40	5,546	----------	----------	----------	----------
Denmark	9,842	21,998	4,176	9,006	6,236	22,137	5,243	26,927
Dutch East Indies	135	16,708	457	17,102	371	9,899	[1] 7	[1] 10,707
Egypt	----------	10,754	1,910	5,065	406	4,988	----------	----------
Mexico	[2] 107	41,012	----------	----------	----------	----------	----------	----------
Netherlands	73,691	67,636	40,709	42,180	51,302	47,379	34,046	47,681
New Zealand	752	25,577	611	33,061	210	31,042	----------	28,025
Norway	13,979	13,852	6,061	6,608	6,186	9,000	7,903	10,295
Peru	----------	6,195	----------	3,955	----------	3,505	----------	4,614
Switzerland	6,359	22,866	1,944	4,102	4,379	10,872	7,547	11,649
Union of South Africa	219	50,737	1,199	49,057	417	45,735	152	63,312
Uruguay	----------	71,105	----------	34,172	----------	----------	----------	----------
Venezuela	----------	9,764	----------	6,810	----------	4,624	----------	----------
PRINCIPAL IMPORTING COUNTRIES.								
Austria	----------	----------	6,517	860	15,260	1,004	----------	----------
Austria-Hungary	87,566	79,265	----------	----------	----------	----------	----------	----------
Belgium	180,930	117,213	54,192	17,494	73,207	41,558	58,864	19,963
British Malaya	[3] 9,332	[3] 6,436	10,937	5,819	7,803	1,410	----------	----------
Czechoslovakia	----------	----------	----------	----------	24,281	1,173	7,865	5,573
Finland	10,717	7,136	4,357	124	6,365	2,661	12,138	3,404
France	155,508	131,041	111,179	54,070	78,856	92,129	120,136	88,130
Germany	440,200	152,373	98,082	1,080	[4] 195,702	[4] 1,151	240,566	4,382
Greece	5,770	2,283	7,831	3,629	8,164	5,181	9,122	4,855
Italy	53,524	48,428	55,721	17,573	47,567	47,779	70,547	51,650
Japan	6,321	710	25,323	----------	23,919	----------	----------	----------
Russia	110,143	96,351	----------	----------	----------	----------	----------	----------
Spain	19,119	17,457	30,049	6,806	17,442	11,738	22,560	18,111
Sweden	25,662	24,130	26,226	9,120	21,873	21,879	29,257	23,726
United Kingdom	107,350	38,100	123,491	17,069	76,775	18,500	104,620	25,576
United States	514,249	25,432	510,240	17,402	348,047	30,577	551,258	28,700
Other countries	54,716	184,654	14,586	83,122	7,681	26,771	4,465	26,139
Total	1,959,521	1,991,355	1,184,986	941,275	1,061,553	1,007,561	1,345,725	1,096,938

Division of Statistical and Historical Research. Official sources except where otherwise noted.

[1] Java and Madura only.
[2] Four-year average.
[3] Singapore only.
[4] Eight months, May–December.

TABLE 576.—*Hides and skins: Imports into the United States, 1910–1923.*

Year ending June 30.	Buffalo hides, dry.	Calfskins.		Cattle hides.		Goatskins.	
		Dry.	Green or pickled.	Dry.	Green or pickled.	Dry.	Green or pickled.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	[1]	[1]	[2] 75,593	[1]	[3] 318,004	[1]	115,845
1910–11	3,425	23,522	36,261	54,630	95,498	64,388	22,576
1911–12	4,906	41,992	63,260	78,131	172,881	69,143	26,198
1912–13	16,235	39,974	54,585	82,595	185,447	70,563	25,687
1913–14	14,493	27,768	54,636	71,486	208,478	63,374	21,385
1914–15	12,428	15,678	30,289	93,001	241,340	50,713	15,334
1915–16	13,004	26,913	37,222	153,339	280,839	85,506	15,152
1916–17	27,095	33,936	12,400	161,237	225,363	92,425	13,215
1917–18	10,498	8,894	4,268	76,655	190,844	56,736	10,195
1918–19	9,515	11,602	9,046	33,182	220,695	78,159	10,845
1919–20	14,682	43,209	25,151	111,252	328,209	103,828	23,167
1920–21	4,617	11,810	23,780	24,814	173,759	36,816	4,912
1921–22	3,084	16,175	25,383	18,439	186,498	66,228	15,307
1922–23	2,537	14,988	30,736	58,770	346,613	70,763	18,607

[1] Included in cattle hides.
[2] Included in green or pickled.
[3] Includes dry hides.

TABLE 576.—*Hides and skins: Imports into the United States, 1910–1923*—Contd.

Year ending June 30.	Horse and ass skins.		Kangaroo and wallaby skins.	Sheepskins.		All other.	Total.
	Dry.	Green or pickled.		Dry.	Green or pickled.		
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1909–10	[2]	[3] 19,512	[4]	[2]	[3] 67,406	12,259	608,619
1910–11	4,551	5,704	[4]	18,787	36,930	8,669	374,891
1911–12	7,194	5,675	[4]	25,645	34,755	7,988	537,768
1912–13	10,979	8,448	1,097	31,132	40,653	4,802	572,197
1913–14	7,620	4,645	1,329	29,338	40,739	15,780	561,071
1914–15	5,425	3,800	769	20,886	37,834	10,226	538,218
1915–16	6,780	11,347	1,219	54,600	46,859	10,890	748,670
1916–17	12,185	15,485	959	55,284	40,447	10,176	700,207
1917–18	2,699	6,360	671	32,239	23,230	9,226	432,517
1918–19	2,762	3,551	1,053	26,464	35,431	5,837	448,142
1919–20	13,910	22,407	1,193	42,501	58,365	10,695	798,569
1920–21	1,142	5,461	878	22,401	35,899	5,904	352,193
1921–22	1,295	3,430	724	12,593	36,245	5,503	392,904
1922–23	11,940	10,461	1,152	[5] 3,828	[5] 57,864	29,920	658,179

Division of Statistical and Historical Research.

[2] Included in green or pickled.
[3] Includes dry hides.
[4] Included in all other.
[5] Except sheepskins with wool on.

TABLE 577.—*Hides, heavy native steer: Average price per pound at Chicago, 1910–1923.*

PACKER HIDES.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	$0.17	$0.15	$0.14	$0.15	$0.16	$0.18	$0.16	$0.16	$0.16	$0.16	$0.15	$0.14	$0.16
1911	.13	.13	.13	.13	.14	.16	.16	.16	.16	.16	.16	.16	.15
1912	.16	.16	.16	.16	.17	.17	.18	.19	.20	.20	.20	.19	.18
1913	.19	.18	.17	.17	.17	.18	.18	.19	.19	.20	.20	.18	.18
1914	.18	.18	.18	.18	.18	.19	.20	.21	.21	.21	.23	.23	.20
1915	.23	.23	.21	.19	.22	.24	.26	.27	.26	.26	.26	.25	.24
1916	.23	.23	.22	.23	.26	.27	.27	.26	.26	.28	.32	.33	.26
1917	.32	.31	.30	.30	.32	.32	.32	.32	.33	.34	.35	.35	.32
1918	.32	.29	.26	.27	.31	.33	.33	.30	.30	.30	.29	.29	.30
1919	.28	.28	.28	.31	.37	.41	.50	.53	.46	.48	.47	.40	.40
1920	.40	.40	.37	.36	.36	.36	.31	.28	.28	.26	.22	.20	.32
Av. 1914–1920	.28	.27	.26	.26	.29	.30	.31	.31	.30	.30	.30	.29	.29
1921	.17	.15	.13	.11	.12	.14	.14	.14	.14	.15	.16	.16	.14
1922	.16	.16	.14	.14	.15	.17	.18	.20	.21	.23	.23	.21	.18
1923	.20	.20	.19	.19	.19	.16	.15	.15	.14	.15	.15	.14	.17

COUNTRY HIDES.

1910	$0.14	$0.13	$0.12	$0.13	$0.12	$0.12	$0.11	$0.12	$0.13	$0.12	$0.12	$0.11	$0.12
1911	.11	.11	.11	.11	.11	.12	.13	.13	.13	.13	.14	.13	.12
1912	.13	.13	.13	.13	.14	.14	.14	.15	.16	.16	.16	.16	.14
1913	.15	.15	.15	.15	.14	.14	.15	.15	.16	.17	.17	.16	.15
1914	.16	.16	.16	.15	.17	.16	.16	.16	.17	.17	.19	.20	.17
1915	.20	.20	.18	.17	.17	.18	.21	.20	.20	.22	.21	.20	.20
1916	.18	.19	.18	.19	.20	.20	.20	.21	.21	.23	.27	.26	.21
1917	.24	.24	.24	.24	.25	.26	.26	.27	.24	.28	.29	.26	.26
1918	.23	.21	.17	.19	.28	.28	.28	.24	.24	.24	.22	.22	.23
1919	.22	.22	.22	.24	.28	.34	.43	.47	.41	.38	.36	.28	.32
1920	.33	.33	.30	.28	.28	.24	.23	.20	.19	.18	.16	.14	.24
Av. 1914–1920	.22	.22	.21	.21	.23	.24	.25	.25	.24	.24	.24	.22	.23
1921	.13	.11	.10	.09	.09	.09	.08	.08	.08	.09	.10	.10	.10
1922	.10	.09	.08	.09	.09	.11	.13	.14	.14	.15	.15	.14	.12
1923	.13	.13	.13	.14	.14	.12	.11	.11	.10	.10	.08	.08	.11

Division of Statistical and Historical Research. Compiled from data in "Hide and Leather."

HORSES AND MULES.

TABLE 578.—*Horses and mules: Number and value on farms, United States, Jan. 1, 1867–1924.*

Jan. 1.	Horses			Mules.		
	Number.	Price per head Jan. 1.	Farm value Jan. 1.	Number.	Price per head Jan 1.	Farm value Jan. 1.
	Thousands.	*Dollars.*	*Thousand dollars.*	*Thousands.*	*Dollars.*	*Thousand dollars.*
1867	5,401	59.05	318,924	822	66.94	55,048
1868	5,757	54.22	312,416	856	56.04	47,954
1869	6,333	62.57	396,222	922	79.23	73,027
1870, June 1	*7,145*	67.42	481,719	*1,125*	90.16	101,434
1871	8,702	71.14	619,089	1,242	91.98	114,272
1872	8,991	67.41	606,111	1,276	87.14	111,223
1873	9,222	66.39	612,273	1,310	85.15	111,546
1874	9,334	65.15	608,073	1,339	81.35	108,952
1875	9,504	61.16	580,708	1,394	71.89	100,197
1876	9,935	57.29	557,747	1,414	66.46	94,002
1877	10,155	55.83	567,017	1,444	64.07	92,482
1878	10,336	56.63	584,999	1,638	62.03	101,579
1879	10,939	52.36	572,712	1,713	56.09	95,942
1880, June 1	*10,357*	54.60	560,916	*1,815*	62.19	112,749
1881	11,490	58.44	667,984	1,721	69.79	120,096
1882	10,522	58.53	615,825	1,885	71.35	130,915
1883	10,838	70.59	765,041	1,871	79.49	148,732
1884	11,170	74.64	833,734	1,914	84.22	161,215
1885	11,565	73.70	852,283	1,973	82.38	162,477
1886	12,078	71.27	860,823	2,053	79.60	163,331
1887	12,407	72.15	901,686	2,117	78.91	167,058
1888	13,173	71.82	946,096	2,192	79.78	174,854
1889	13,663	71.89	982,195	2,258	79.49	179,444
1890, June 1	*14,969*	70.22	1,051,182	*2,996*	78.04	179,176
1891	14,057	67.00	941,823	2,297	77.88	178,817
1892	15,498	65.01	1,007,594	2,315	75.55	174,882
1893	16,207	61.29	992,225	2,331	70.63	164,764
1894	16,081	47.83	769,225	2,352	62.17	146,233
1895	15,893	36.29	576,731	2,333	47.55	110,936
1896	15,124	33.07	500,140	2,279	45.29	103,204
1897	14,365	31.51	452,649	2,216	41.66	92,302
1898	13,991	34.26	479,362	2,190	43.85	96,110
1899	13,685	37.40	511,675	2,134	44.96	95,902
1900, June 1	*18,267*	43.68	797,907	*3,265*	51.41	167,855
1901	16,745	52.86	885,208	2,864	63.97	183,232
1902	16,581	58.61	968,935	2,757	67.64	186,412
1903	16,557	62.25	1,030,706	2,726	72.49	197,753
1904	16,736	67.95	1,136,949	2,758	78.88	217,533
1905	17,058	70.37	1,200,316	2,889	87.18	251,840
1906	18,719	80.72	1,510,590	3,404	98.31	334,681
1907	19,747	93.51	1,846,578	3,817	112.16	428,064
1908	19,992	93.41	1,867,530	3,869	107.76	416,939
1909	20,640	95.64	1,974,052	4,053	107.84	437,082
1910, Apr. 15	*19,853*	106.03	2,142,524	*4,210*	120.20	506,049
1911	20,277	111.46	2,259,981	4,328	125.92	544,359
1912	20,509	105.94	2,172,694	4,362	120.51	525,657
1913	20,567	110.77	2,278,222	4,386	124.31	545,245
Av. 1909–1913	20,365	106.34	2,165,495	4,267	119.92	511,678
1914	20,962	106.32	2,291,638	4,449	123.85	551,017
1915	21,195	103.39	2,190,102	4,479	112.36	503,271
1916	21,199	101.60	2,149,786	4,593	113.83	522,834
1917	21,270	102.89	2,182,367	4,723	118.15	558,005
1918	21,555	104.24	2,246,970	4,872	128.81	627,679
1919	21,482	95.46	2,214,897	4,954	135.83	672,922
1920	19,766	96.52	1,907,646	5,427	148.42	805,495
Av. 1914–1920	21,067	102.39	2,154,764	4,785	128.62	605,889
1921	19,268	84.31	1,619,423	5,455	116.69	636,568
1922	19,056	70.54	1,344,136	5,407	88.09	481,578
1923	18,697	69.83	1,300,729	5,485	85.94	471,285
1924 [1]	18,263	64.41	1,176,282	5,430	84.20	457,697

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Preliminary.

TABLE 579.—*Horses and mules: Number and value on farms, by States, Jan. 1, 1923 and 1924.*

State.	Horses.						Mules.					
	Number, Jan. 1.		Average price per head, Jan. 1.		Farm value, Jan. 1.		Number, Jan. 1.		Average price per head, Jan. 1.		Farm value, Jan. 1.	
	1923	1924[1]	1923	1924	1923	1924[1]	1923	1924[1]	1923	1924	1923	1924[1]
	Thousands.	*Thousands.*	*Dolls.*	*Dolls.*	*Thousand dollars.*	*Thousand dollars.*	*Thousands.*	*Thousands.*	*Dolls.*	*Dolls.*	*Thousand dolls.*	*Thousand dolls.*
Maine	91	88	122.00	122.00	11,102	10,736	-------	-------	-------	-------	-------	-------
New Hampshire	35	35	114.00	111.00	3,990	3,885	-------	-------	-------	-------	-------	-------
Vermont	76	74	104.00	104.00	7,904	7,696	-------	-------	-------	-------	-------	-------
Massachusetts	47	46	138.00	136.00	6,486	6,256	-------	-------	-------	-------	-------	-------
Rhode Island	6	6	133.00	123.00	798	738	-------	-------	-------	-------	-------	-------
Connecticut	38	38	128.00	128.00	4,608	4,608	-------	-------	-------	-------	-------	-------
New York	510	505	115.00	110.00	58,650	55,550	7	7	133.00	113.00	931	791
New Jersey	72	70	129.00	115.00	9,288	8,050	6	6	131.00	120.00	786	720
Pennsylvania	491	486	110.00	99.00	54,010	48,114	55	55	125.00	110.00	6,875	6,050
Delaware	25	25	78.00	63.00	1,950	1,575	9	9	88.00	83.00	792	747
Maryland	136	135	86.00	77.00	11,696	10,395	33	33	111.00	101.00	3,663	3,333
Virginia	294	288	82.00	77.00	24,108	22,176	97	97	103.00	100.00	9,991	9,700
West Virginia	161	159	90.00	79.00	14,496	12,561	15	15	102.00	87.00	1,530	1,305
North Carolina	166	163	108.00	103.00	17,928	16,789	260	260	128.00	128.00	33,280	33,280
South Carolina	70	70	92.00	103.00	6,440	7,210	209	213	124.00	134.00	25,916	28,542
Georgia	95	89	83.00	83.00	7,885	7,387	390	371	105.00	109.00	40,950	40,439
Florida	38	37	105.00	101.00	3,990	3,737	43	43	138.00	141.00	5,934	6,063
Ohio	771	763	93.00	80.00	71,703	61,040	32	32	97.00	89.00	3,104	2,848
Indiana	696	682	74.00	66.00	51,504	45,012	101	101	77.00	70.00	7,777	7,070
Illinois	1,183	1,171	70.00	67.00	82,810	78,457	170	170	77.00	73.00	13,090	12,410
Michigan	594	582	92.00	80.00	54,648	46,560	6	6	99.00	84.00	594	504
Wisconsin	643	630	104.00	96.00	66,872	60,480	4	4	103.00	83.00	412	332
Minnesota	887	849	77.00	71.00	68,299	61,599	10	10	82.00	78.00	820	780
Iowa	1,256	1,241	79.00	74.00	100,014	91,834	95	93	80.00	77.00	7,600	7,161
Missouri	870	861	52.00	48.00	45,240	41,328	373	369	63.00	63.00	23,499	23,247
North Dakota	797	781	50.00	49.00	44,632	38,269	8	8	69.00	61.00	552	488
South Dakota	760	745	52.00	48.00	39,520	35,760	14	14	68.00	61.00	952	854
Nebraska	901	883	58.00	55.00	52,258	48,565	114	114	70.00	69.00	7,980	7,866
Kansas	978	958	45.00	41.00	44,010	39,278	292	286	58.00	55.00	16,936	15,730
Kentucky	374	363	65.00	56.00	24,310	20,328	287	278	76.00	66.00	21,812	18,348
Tennessee	369	360	73.00	66.00	22,557	19,800	343	336	84.00	78.00	28,812	26,208
Alabama	129	128	78.00	77.00	10,062	9,856	311	314	99.00	99.00	30,789	31,086
Mississippi	211	211	72.00	69.00	15,192	14,559	302	308	93.00	95.00	28,086	29,260
Louisiana	171	168	71.00	66.00	12,141	11,088	176	180	113.00	93.00	19,888	16,740
Texas	990	980	53.00	55.00	52,470	53,900	852	854	80.00	86.00	69,040	73,444
Oklahoma	680	653	40.00	34.00	27,200	22,202	337	337	58.00	53.00	19,546	17,861
Arkansas	225	218	53.00	42.00	11,925	9,156	335	328	73.00	61.00	24,455	20,008
Montana	643	643	38.00	31.00	24,434	19,933	9	9	60.00	55.00	540	495
Wyoming	198	198	33.00	30.00	6,534	5,940	2	3	88.00	55.00	174	165
Colorado	408	400	46.00	42.00	18,768	16,800	33	33	60.00	58.00	1,980	1,914
New Mexico	181	176	45.00	39.00	8,145	6,864	21	21	66.00	60.00	1,386	1,260
Arizona	131	130	62.00	62.00	8,122	8,060	12	12	76.00	93.00	912	1,116
Utah	128	128	60.00	62.00	8,832	7,936	3	3	62.00	59.00	186	177
Nevada	49	49	55.00	54.00	2,695	2,646	2	2	61.00	55.00	122	110
Idaho	273	265	58.00	50.00	15,834	13,250	8	8	65.00	63.00	520	504
Washington	247	222	70.00	70.00	17,290	15,540	22	21	83.00	78.00	1,826	1,638
Oregon	245	239	81.00	69.00	19,845	16,570	14	13	76.00	71.00	1,064	923
California	340	323	81.00	83.00	27,540	26,809	61	69	103.00	103.00	6,283	6,780
United States	18,627	18,203	69.83	64.41	1,300,729	1,176,282	5,435	5,436	85.94	84.26	471,385	457,697

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 580.—*Horses and mules:* [1] *Estimated yearly losses per 1,000 from disease, 1888–1924.*

Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.
1887–88	18.3	1897–98	20.0	1907–8	17.1	1917–18	16.5
1888–89	14.6	1898–99	23.4	1908–9	18.2	1918–19	15.7
1889–90	16.4	1899–1900	18.3	1909–10	19.9	1919–20	17.8
1890–91	16.6	1900–1	18.2	1910–11	19.0	1920–21	14.7
1891–92	15.3	1901–2	20.2	1911–12	21.9	1921–22	15.7
1892–93	17.0	1902–3	19.7	1912–13	22.6	1922–23	15.0
1893–94	21.0	1903–4	19.6	1913–14	20.6	1923–24	15.2
1894–95	22.3	1904–5	17.9	1914–15			
1895–96	20.2	1905–6	17.7	1915–16	17.5		
1896–97	21.3	1906–7	18.9	1916–17	16.9		

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending Apr. 30.

[1] Including mules since 1912.

TABLE 581.—*Horses and mules: Receipts at principal markets and at all markets reported, 1900–1923.*

Calendar year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets reporting.	Total all markets reporting.[1]
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1900	99	23	145	(2)	103	60	13	27	31	501	----	----
1901	109	17	129	(2)	97	36	23	15	18	444	----	----
1902	102	24	109	5	77	42	20	8	19	406	----	----
1903	101	19	129	10	67	53	20	8	12	419	----	----
1904	105	13	181	18	68	47	29	6	4	472	----	----
1905	127	16	178	18	66	45	32	6	15	503	----	----
1906	127	17	166	21	70	42	28	9	19	499	----	----
1907	102	11	117	19	62	44	27	15	16	413	----	----
1908	92	11	109	12	56	40	23	7	13	363	----	----
1909	91	15	122	21	68	32	23	6	15	393	----	----
1910	83	16	130	34	70	30	28	5	16	412	----	----
1911	105	18	171	37	85	32	42	8	17	515	----	----
1912	93	15	164	49	73	33	39	5	10	481	----	----
1913	91	16	157	57	82	32	32	5	10	482	----	----
1914	106	17	148	48	87	31	25	6	10	478	----	----
1915	165	72	271	55	102	42	41	10	22	780	327	1,107
1916	205	53	267	79	123	27	27	12	17	810	668	1,478
1917	107	20	280	115	128	33	34	10	29	756	720	1,476
1918	88	15	242	79	85	22	39	7	23	600	616	1,216
1919	46	23	250	60	83	25	43	11	16	557	511	1,068
1920	43	18	141	45	72	19	30	10	23	401	324	725
1921	34	10	68	13	30	7	12	5	7	186	131	317
1922	32	13	95	29	38	9	16	2	8	242	201	443
1923	26	23	102	58	43	17	15	3	15	302	249	551
1923.												
January	3	1	23	6	8	1	3	(3)	1	46	40	86
February	3	1	11	2	4	2	1	1	1	26	28	54
March	5	1	11	2	5	1	1	1	2	29	32	61
April	3	2	6	1	4	1	1	(3)	1	19	17	36
May	2	1	4	1	1	1	1	(3)	1	12	8	20
June	1	1	2	(3)	1	(3)	(3)	(3)	(3)	5	9	14
July	2	2	3	1	1	2	1	1	1	14	3	17
August	1	2	6	4	3	2	1	(3)	2	21	11	32
September	1	3	7	10	4	2	2	(3)	2	31	19	50
October	2	4	13	15	5	3	2	(3)	2	46	29	75
November	1	3	8	10	4	1	1	(3)	1	29	30	59
December	2	2	8	6	3	1	1	(3)	1	24	23	47

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stock yard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

[1] Figures prior to 1915 not available. [2] Not in operation. [3] Less than 500.

TABLE 582.—*Horses and mules: Receipts at public stockyards in the United States, calendar years, 1915–1923.*

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number*	*Number*	*Number*	*Number*
Albany, N. Y.		6,014	3,303				40		
Amarillo, Tex.	5,006	14,390	13,367	14,655	15,014	12,804	2,050	3,331	6,230
Atlanta, Ga.				78,160	60,327	25,931	3,119	7,955	33,865
Augusta, Ga.			23,125	33,219	22,080	7,055	905	269	471
Baltimore, Md.	3,956	13,901	7,442	8,670	4,961	4,813	2,284	2,453	2,714
Billings, Mont.		3	777	1,363	1,841	760	38		
Boston, Mass.	3,237	8,106	627	253	276				
Buffalo, N. Y.	12,280	56,482	16,515	10,034	18,594	22,526	23,687	21,159	18,365
Chattanooga, Tenn.									431
Cheyenne, Wyo.			5,539	3,824	2,076	1,782	965	3,264	1,365
Chicago, Ill.	165,253	205,449	107,311	87,320	45,702	43,020	33,723	31,689	26,065
Cincinnati, Ohio	30,425	19,671	27,279	18,521	18,880	14,181	5,699	4,248	4,244
Cleveland, Ohio			9,060	4,320	5,260	5,580	2,300	2,020	1,100
Columbia, S. C.		1,356	1,351	1,271	1,174	847	89		
Columbus, Ohio		32	100	2,035	1,224	224			
Dallas, Tex.				58					
Dayton, Ohio		221	58	74	47				52
Denver, Colo.	71,870	52,800	19,758	14,599	22,936	17,591	9,639	13,485	22,591
Detroit, Mich.			13,755	3,544	1,835	2,584	667	821	1,847
Dublin, Ga.				245	13	20			
East St. Louis, Ill.	270,612	266,818	279,837	241,751	250,311	141,230	67,756	95,048	101,535
El Paso, Tex.	7,892	23,385	15,052	9,126	16,295	13,931	9,574	6,106	6,758
Emeryville, Calif.				20					
Erie, Pa.				1,608	761	1,706			
Evansville, Ind.		658	993	1,080	1,135	962	43	102	412
Fort Wayne, Ind.									2
Fort Worth, Tex.	53,640	79,209	115,233	78,881	60,303	45,362	13,086	28,610	58,437
Indianapolis, Ind.	28,203	29,444	61,692	19,608	9,080	8,814	2,710	2,481	1,409
Jacksonville, Fla.		526	131		18	6		14	154
Jersey City, N. J.	62,122	154,721	70,208	42,185	10,574	2,624	1,602	1,267	678
Kansas City, Mo.	102,153	123,141	127,823	84,628	82,852	71,797	30,453	38,310	42,987
Knoxville, Tenn.	7,040	7,378	8,254	6,430	7,214	4,160	2,276	4,057	9,122
La Fayette, Ind.	35								
Lancaster, Pa.	1,017	1,417	8,342	11,228	2,068	3,432	1,360	1,790	2,603
Laredo, Tex.									801
Logansport, Ind.		1,068				52	1		
Los Angeles, Calif.									130
Louisville, Ky.	2,800	5,200	14,127	16,967	11,274	9,031	1,598	2,718	2,487
Marion, Ohio				141	977	2,444	836	914	480
Memphis, Tenn.		39,816	60,848	33,116	32,598	8,006	14,770	46,249	60,216
Milwaukee, Wis.	1,126	1,714	1,849	2,185	1,879	2,246	1,243	1,878	1,502
Mobile, Ala.	27								
Montgomery, Ala.			7,169	24,102	22,201	11,969	4,002	14,133	4,801
Nashville, Tenn.		15,855	74,280	103,818	97,425	29,572	101		
Nebraska City, Nebr.				83	312	244	134	570	
New Brighton, Minn.	3,870	616	809	1,097	9,489	3,653	107	121	
New Orleans, La.		852	2,614	556	368	1,254	51	224	288
New York, N. Y.	17,447	8,529	7,574	307	1,982	1,723	568	1,007	2,340
North Salt Lake, Utah		1,785	1,981	1,578	1,484	1,641	627	1,715	2,867
Ogden, Utah			25,425	18,809	6,467	5,630	1,460	1,387	2,359
Oklahoma, Okla.	36,954	47,381	62,306	12,687	9,951	5,847	1,824	4,798	8,321
Omaha, Nebr.	41,679	27,486	32,781	22,212	25,201	18,751	6,779	8,871	16,809
Pasco, Wash.				159	380	303	126	320	226
Peoria, Ill.	389	764	637	125	171	535	501	475	351
Philadelphia, Pa.	7,214	11,002	9,892	7,800	7,222	5,792	2,731	2,836	2,902
Pittsburgh, Pa.	48,340	53,505	39,073	35,265	17,992	20,472	10,742	14,131	12,442
Portland, Oreg.	4,668	2,904	6,933	2,483	2,308	1,887	1,042	1,076	1,388
Pueblo, Colo.	8,359	8,250	6,665	3,798	3,812	3,503	857	1,314	1,429
Richmond, Va.		17,514	25,004	23,970	25,100	16,167	10,266	13,161	16,185
Roanoke, Va.									22
St. Joseph, Mo.	41,254	27,206	33,584	39,260	43,380	29,768	11,580	15,961	15,199
St. Louis, Mo.	3,577	2,108	1,968	930					
St. Paul, Minn.	10,091	11,777	9,959	6,541	11,228	10,488	4,848	2,053	3,309
San Antonio, Tex.	14,094	41,105	31,898	29,955	29,881	24,573	6,314	9,212	10,531
Seattle, Wash.		20		420	923	671	292	443	413

TABLE 582.—*Horses and mules: Receipts at public stockyards in the United States, calendar years, 1915–1923*—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number*	*Number*	*Number*	*Number*
Sioux City, Iowa	21,742	16,717	29,391	25,306	16,272	28,226	7,262	7,954	14,921
Sioux Falls, S. Dak.			49	242	253	176	69	375	320
Spokane, Wash.	3,657	6,495	7,125	4,732	2,926	2,535	761	1,103	828
Tacoma, Wash.		26		12	63				
Toledo, Ohio		1,334	1,969	1,789	2,783	4,553	960	923	442
Washington, D. C.		178	1,556	396	32	60	43	220	64
Watertown, Mass.		44,514	22,084	6,578	1,449				
Wichita, Kans.	14,472	17,146	19,312	11,159	16,750	24,714	10,885	17,936	22,863
Total	1,106,501	1,477,983	1,475,854	1,215,776	1,067,597	724,811	317,445	442,648	550,703

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 583.—*Horses and mules: Receipts at all public stockyards, 1915–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1915	97	95	95	88	98	103	94	74	85	111	97	70	1,107
1916	118	105	111	84	120	104	162	138	139	153	129	115	1,478
1917	149	95	117	99	66	63	83	58	129	236	223	163	1,478
1918	161	149	138	44	36	45	58	84	128	162	145	76	1,216
1919	115	87	71	53	37	43	53	92	148	130	146	93	1,068
1920	146	112	87	48	43	34	38	75	62	40	23	17	725
1921	35	41	44	26	18	14	11	17	22	36	29	26	317
1922	46	37	47	29	23	16	17	24	41	61	55	47	443
1923	86	54	61	36	20	14	17	32	50	75	59	47	551

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 584.—*Horses and mules: Imports, exports, and prices, 1896–1923.*

Year ending June 30—	Imports of horses.			Exports of horses.			Exports of mules.		
	Number.	Value.	Average import price.	Number.	Value.	Average export price.	Number.	Value.	Average export price.
1895–96	9,991	$662,501	$66.32	25,126	$3,530,703	$140.52	5,918	$406,161	$68.63
1896–97	6,996	464,808	66.42	39,532	4,769,265	120.64	7,473	545,331	72.97
1897–98	3,685	414,899	134.49	51,150	6,178,569	120.75	8,098	664,789	82.09
1898–99	3,942	551,650	131.15	45,778	5,444,342	118.96	8,755	518,908	76.52
1899–1900	3,102	506,502	192.32	64,722	7,612,616	117.62	43,309	3,919,478	90.38
1900–1	3,785	985,738	260.43	82,250	8,873,845	107.89	34,405	3,210,267	93.31
1901–2	4,832	1,577,234	326.41	108,080	10,048,046	97.52	27,586	2,692,298	97.60
1902–3	4,999	1,536,206	307.32	34,007	3,152,159	92.69	4,294	521,725	121.50
1903–4	4,726	1,460,287	308.99	42,001	3,189,100	75.93	3,658	412,971	112.90
1904–5	5,180	1,591,063	307.16	34,822	3,175,259	91.19	5,826	645,404	110.79
1905–6	6,021	1,716,675	285.11	40,667	4,365,981	108.91	7,167	989,639	138.08
1906–7	6,080	1,978,105	325.35	32,882	4,359,957	128.66	6,781	850,901	125.48
1907–8	5,487	1,664,392	292.40	19,000	2,612,587	137.50	6,609	990,667	149.90
1908–9	7,084	2,007,276	283.35	21,616	3,396,617	156.67	3,432	472,017	137.53
1909–10	11,620	3,296,022	283.65	28,910	4,081,157	141.17	4,512	614,094	136.10
1910–11	9,593	2,692,074	280.63	25,145	3,845,253	152.93	6,585	1,070,051	162.50
1911–12	6,607	1,923,025	291.06	34,528	4,704,815	136.81	4,901	732,095	149.38
1912–13	10,068	2,126,875	212.42	28,707	3,966,102	137.95	4,744	733,795	154.66
1913–14	38,019	2,905,638	76.89	22,776	3,238,819	148.79	4,883	698,974	141.51
1914–15	12,652	977,380	77.25	289,340	64,046,534	221.35	65,788	12,726,143	193.44
1915–16	15,556	1,618,243	104.06	357,553	73,537,146	205.65	111,915	22,966,312	205.15
1916–17	12,564	1,868,303	150.06	278,674	59,525,329	213.60	136,689	27,800,854	203.39
1917–18	5,111	1,157,442	232.33	84,765	14,923,603	176.06	28,879	4,895,406	169.17
1918–19	4,063	720,264	187.43	27,975	5,200,251	186.10	12,452	2,333,729	187.43
1919–20	4,908	799,612	162.86	18,952	3,285,066	173.34	8,991	1,815,868	201.97
1920–21	4,044	1,205,457	298.09	12,638	1,922,041	152.16	6,770	1,063,254	157.05
1921–22	3,136	531,783	169.57	17,827	1,868,099	104.79	11,241	1,009,587	89.81
1922–23	2,816	845,658	300.30	8,668	1,048,879	121.01	12,719	1,324,566	104.14

Division of Statistical and Historical Research.

TABLE 585.—*Farm price of horses and mules, by age groups, United States, Jan. 1, 1894–1924.*

Jan. 1.	Horses.			Mules.		
	Under 1 year old.	1 and under 2 years.	2 years and over.	Under 1 year old.	1 and under 2 years.	2 years and over.
1894	$20.19	$30.20	$57.32	$26.79	$39.11	$72.99
1895	14.79	22.39	43.60	19.79	29.26	56.01
1896	13.49	20.20	39.73	17.87	26.46	53.61
1897	13.97	19.47	37.77	16.96	24.94	48.96
1898	14.94	21.76	40.78	18.03	26.17	51.46
1899	16.51	24.05	44.40	18.81	27.20	52.51
1900	19.44	28.67	53.01	22.71	32.87	62.21
1901	20.44	30.59	57.63	26.14	37.74	69.66
1902	22.02	33.39	63.99	27.01	39.55	73.61
1903	25.08	39.21	67.46	31.96	47.73	78.07
1904	26.86	42.19	73.68	34.39	51.73	84.04
1905	28.05	43.67	76.30	37.85	56.93	94.13
1906	32.91	51.36	87.35	43.45	64.36	106.04
1907	39.12	61.77	101.02	51.35	74.73	120.82
1908	(1)	(1)	(1)	(1)	(1)	(1)
1909	(1)	(1)	(1)	(1)	(1)	(1)
1910	46.05	72.63	116.57	56.76	84.53	128.96
1911	43.09	75.66	120.04	59.89	88.13	135.11
1912	45.75	71.96	114.24	56.12	83.00	120.46
1913	48.75	76.54	121.06	59.31	86.56	134.05
1914	47.95	74.87	119.77	57.45	83.87	133.76
1915	45.36	70.62	113.10	51.80	76.46	121.46
1916	44.36	69.08	111.34	51.59	76.82	123.55
1917	45.17	70.21	112.04	53.98	80.28	128.17
1918	45.26	70.21	114.30	57.61	86.32	139.38
1919	42.62	65.94	108.17	59.14	89.14	147.65
1920	37.22	58.88	103.53	60.12	99.48	160.54
1921	31.57	49.72	90.70	47.49	71.76	128.39
1922	26.22	41.24	76.02	35.18	53.04	95.44
1923	26.14	41.61	75.07	34.20	51.54	93.19
1924	23.99	37.81	69.30	31.72	48.43	91.60

Division of Crop and Livestock Estimates.

[1] No data.

TABLE 586.—*Horses: Farm price per head, 15th of month, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average.
1910	$140	$147	$150	$154	$148	$151	$148	$148	$145	$144	$143	$141	$146
1911	143	144	145	147	146	145	139	141	139	137	136	134	141
1912	134	137	140	142	144	145	142	142	141	140	139	139	140
1913	140	146	146	148	145	146	143	141	141	138	136	135	142
Av. 1910–1913	139	144	145	148	146	147	143	143	142	140	138	137	142
1914	137	139	138	138	139	136	137	135	132	131	130	130	135
1915	130	132	132	132	133	132	134	131	131	129	127	126	130
1916	128	129	131	133	133	132	133	131	131	130	129	129	130
1917	129	131	133	136	138	137	135	132	132	130	129	129	132
1918	130	133	137	137	136	135	132	131	128	126	122	121	130
1919	120	121	124	127	129	127	127	125	119	114	113	113	121
1920	118	123	127	131	132	130	127	124	119	112	108	97	119
Av. 1914–1920	127	130	132	133	134	133	132	130	127	125	122	121	128
1921	96	98	101	100	98	98	94	93	89	85	82	81	92
1922	82	84	86	87	89	88	88	86	84	81	79	79	84
1923	81	85	85	86	88	87	85	78	82	80	78	75	82

Division of Crop and Livestock Estimates.

TABLE 588.—*Livestock in undermentioned countries*—Continued.

Country.	Date.	Cattle.[1]	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscellaneous.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
British South West Africa (former German Southwest Africa)	1913	206	8	555	517	16	14		[12] 1
	1922	750	16	1,350	900	29		27	[12] (4)
Bulgaria [14]	Dec. 31, 1910	[1] *2,018*	*587*	*5,633*	*1,458*	*478*	*18*	*117*	
	1920	*2,438*	*1,113*	*5,966*	*1,639*	*418*	*27*	*161*	
Cape Verde Islands (Portuguese)	1914	8	14	4	30	1	1	10	
	1916	9	17	6	38	1	1	17	
Canada	June 30, 1913	6,656	3,448	2,129		2,806			
	June 15, 1923	9,246	4,405	2,754		3,532	9		
Cayman Islands (British)	1913	2	1		(4)	(4)			
	1922	1			(4)	(4)	(4)		
Ceylon	1913	[1] 1,484	86	90	203	5			
	1922	[1] 1,500	50	56	150	2			
Chile	1913	2,064	184	4,567	285	489	34	30	
	1919	2,163	292	4,500	460	392	51	36	[10] 42
China	1914	21,997	76,819	22,180		4,934		4,304	
	1916	15,973	44,711	22,232		4,401		3,660	
Colombia	1916	4,832	1,139	246	232	858	324	168	
Costa Rica	1914	336	64	(4)	1	52	2	(4)	
	1922	477	114	1	1	95	6	(4)	
Croatia-Slavonia	Mar. 24, 1911	[1] *1,135*	*1,164*	*850*	*96*	*550*	*8*		
Cuba	Dec. 31, 1913	3,141				625	46	2	
	1921	4,771				859	72	3	
Cyprus	Mar. 31, 1913	61	40	256	253		60		[11] 1
	1922	47	14	281	230	4	10	44	[12] 1
Czechoslovakia	Dec. 31, 1920	*4,577*	[15] *2,663*	*986*	*1,221*	*591*			
Denmark	July 15, 1914	*2,463*	*2,497*	*515*	*41*	*576*			
	July 15, 1923 [17]	2,537	2,853	374	42	562			
Dominican Republic (Santo Domingo)	May 15, 1921	*647*	*674*		*706*	*163*	*65*		
Dominica (British)	1903	1		1		1			
	1922					1			
Dutch East Indies: Java and Madura	1915	[1] *5,784*				*804*			
	1921	[1] 5,000	97	842	1,421	273			
Outer possessions	1915	*712*				*525*			
	1921	[1] 1,874	805	113	533	[18] 499			
Dutch West Indies: Curaçao and dependencies	1913	3	4	12	46	1	(4)	4	
	1922	3	4	24	73	(4)	(4)	4	
Dutch Guiana or Surinam	Dec. 31, 1913	8	5	(4)	3	(4)	(4)	1	
	Dec. 31, 1922	13	4	(4)	3	(4)	(4)	1	
Egypt [16]	1914	[1] 1,169		816	331	40	22	632	[12] 118
	Sept.-Oct., 1922	[1] 1,201		942	295	35	21	614	[12] 131
Esthonia	1913 [19]	451	212	420	1	161			
	1922	527	272	745		199			
Eritrea (Italian)	1913	517		1,595		2	9	34	[13] 51
	1922	553	(4)	1,701		2	10	47	[13] 68
Falkland Islands (British)	1913	8	(4)	698		4			
	1922	8	(4)	667		4			

[1] Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1), otherwise the figures are for cattle only.
[4] Less than 500.
[12] Camels.
[14] The number of work animals only in 1921 compared with 1913 was as follows, the 1913 figures being given in parentheses: Cattle, 875,000 (754,000); buffaloes, 143,000 (146,000); horses, 174,000 (141,000).
[15] Llamas and alpacas.
[16] Hogs over 1 year old not included.
[17] Includes South Jutland, where the number of livestock on July 15, 1923, was as follows: Cattle, 213,000; swine, 288,000; sheep, 19,000; goats, 2,000; horses, 38,000
[18] Animals belonging to British Army excluded.
[19] Preliminary estimate for numbers within present boundaries in 1913.

TABLE 588.—*Livestock in undermentioned countries*—Continued.

Country.	Date.	Cattle.[1]	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscellaneous.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Faroe Islands (Danish)	1914	4	(4)	112	(4)	1			
	1919	4		69	(4)	1			
Fiji Islands (British).[20]	1913	49	2	3	14	7			
	1922	59	2	1	17	8			
Finland	Sept., 1910	*1,605*	*428*	*1,330*	*11*	*366*			[21] *137*
	1921	1,792	374	1,572	12	293			[21] 53
France	Dec. 31, 1913[10]	14,788	7,036	16,131	1,435	3,222	198	356	
	Dec. 31, 1922	13,576	5,196	9,782	1,368	2,778	186	291	
French Cameron	1922	290		298		15			
French Equatorial Africa (French Congo)	1922	750		1,126		46		45	
French Establishments in India	1913	[1] 51		13	24				
	1923	[1] 85		26	30	1		(4)	
French Guiana	1916	6	7	(1)	(4)	(4)			
French Indo-China	1916	[1] 4,616	2,603			70			
	1921	[1] 3,009	742	2	45	137			
French West Africa:									
Ivory Coast	1922	50	17	111	164	1			
Dahomey	1922	102	43	86	105	2			
French Guinea	1922	389	3	91	96	3		1	
Upper Volta	1922	372		545	427	32		64	
Mauritania	1921	219		2,106					[13] 33
Niger	1922	563		527	676	44		79	[13] 32
Senegal	1922	427	5	215	259	30		43	[13] 4
French Sudan	1922	1,025	[22] 28	2,030	1,592	44		82	22
Germany	Dec. 1, 1913[10]	20,994	25,659	5,521	3,548	[23] 4,523	[22] 2	[22] 1	
	Oct. 1, 1923	16,653	17,226	6,094	4,659	[22,23] 3,651	[22] 26	[22] 5	
Gold Coast (British)	1913	50	11	250		2	(4)	8	
	1921			352		3	(4)	9	
Grenada (British)	1911	5				5			
	1918		2	4	5		1	1	
Greece	1914[10]	[1] 325	227	3,547	2,638	149	80	133	
	1920	[1] 668	416	5,811	3,418	201	364		
Guadelope	1923	26	51	12	17	8	4	4	
Guatemala	1913	557	188	514	11	64	33		
	July, 1922	319	96	185	17	86			
Honduras, Republic of	1913–14	489	180	5	23	69	20	4	
	1918	466							
Hongkong (British)	1913	1		(4)	(4)	(4)			
	1922	2		(4)	(4)	(4)			
Hungary	Apr. 30, 1913[10]	[1] 6,207	6,825	6,560	269	2,005	1	16	
	Apr. —, 1922	1,828	2,473	1,352	1	717			
Iceland	1913	27		635	1	47			
	1921	24		554	2	49			
India (British)	1913–14	[1] 143,179		23,081	30,694	1,644	79	1,508	[13] 498
	1920–21	[1] 145,103		22,075	24,294	1,697	76	1,371	[13] 410
India (Native States)	1913–14	[1] 14,046		8,326		176	182		[13] 54
	1920–21	[1] 33,398		12,499	6,276	501	6	332	[13] 118
Italy	Mar. 19, 1908	[1] *6,218*	*2,508*	*11,165*	*2,715*	*956*	*585*	*850*	
	Apr. 6, 1918	[1] *6,864*	*2,339*	*11,754*	*3,083*	*990*	*497*	*949*	
Jamaica	1913	116	31	19	[22] 17	53			
	1922	141	[24] 32	7	[24] 30	[24] 50		17	

[1] Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
[4] Less than 500.
[10] Former boundaries.
[13] Camels.
[20] Animals owned by Europeans.
[21] Number of reindeer in 1921.
[22] Data for preceding year.
[23] Army horses excluded. According to the Ministry for National Defense they numbered 40,289 in 1922.
[24] Year 1917.

TABLE 588.—*Livestock in undermentioned countries*—Continued.

Country.	Date	Cattle.[1]	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscellaneous.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Japan	Dec. 31, 1913	1,389	310	3	89	1,582	.....	.....	.....
	Dec. 31, 1921	1,437	499	10	142	1,511	.....	.....	.....
Chosen (Korea)	Dec. 31, 1913	1,211	761	(4)	10	51	1	13	.....
	Dec. 31, 1920	1,490	977	1	21	55	2	10	.....
Formosa (Taiwan)	Dec. 31, 1913	1	1,322	(4)	129	(4)	.....	.....	[15] 418
	Dec. 31, 1921	3	1,281	(4)	102	(4)	.....	.....	[15] 419
Karafuto (Japanese)	Dec. 31, 1913	1	1	.....	.....	2	.....	.....	.....
	Dec. 30, 1920	2	2	.....	.....	5	.....	.....	.....
Kwangtung (leased Province of Japan):									
Within the leased province	Dec. 31, 1913	31	60	2	12	2	12	27	.....
	Dec. 31, 1921	33	90	(4)	8	4	15	28	.....
Outside the leased province	Dec. 31, 1913	(4)	6	(4)	(4)	1	1	(4)	.....
	Dec. 31, 1921	1	6	1	(4)	2	1	1	.....
Kenya Colony and Protectorate (British East Africa)	Mar. 31, 1913	780	3	6,500	4,020	1	.....	.....	.....
	Mar., 1922	2,814	[20] 16	2,464	3,369	2	2	36	[13] 120
Latvia	1913 [19]	912	557	996	104	320	.....	.....	.....
	Aug., 1923	899	484	1,461	.....	338	.....	.....	.....
Lithuania	1913 [19]	671	403	514	17	323	.....	.....	.....
	1921	950	1,500	750	.....	440	.....	.....	.....
Luxemburg	Dec. 1, 1913	*108*	*137*	*5*	*10*	*19*	.....	.....	.....
	Dec. 31, 1922	83	89	4	10	17	.....	.....	.....
Madagascar	1915	6,606	666	299	173	3	.....	.....	.....
	1922	8,500	400	175	150	[23] 3	.....	.....	.....
Malta	Mar. 31, 1913	4	4	15	14	3	3	3	.....
	Mar. 31, 1922	6	6	25	32	3	4	*5*	.....
Mauritius [26]	1913	22	8	1	[22] 6	1	(4)	(4)	.....
	1922	17	4	2	7	1			.....
Mexico	June 30, 1902	*5,142*	*616*	*3,424*	*4,206*	*859*	*334*	*288*	.....
	1921	2,304	1,913	[27] 293	[27] 1,254	635	133	108	.....
French Morocco	1915	676	16	3,175	1,062	123		226	[13] 59
	1922	1,558	78	6,319	2,060	150	61	449	[13] 100
Mozambique (Portuguese East Africa)	1913	25	15	10	29	.....	.....	.....	.....
	1916	38	24	10	34	.....	.....	.....	.....
Netherlands	June, 1913	2,097	1,350	842	232	334	.....	.....	.....
	May - June, 1921	2,063	1,519	668	272	364	.....	.....	.....
Newfoundland	1911	*82*	*19*	*75*	*15*	*13*	.....	.....	.....
	1921	*88*	*14*	*86*	*14*	*16*	.....	.....	.....
New Zealand	Apr., 1911	*3,080*	*349*	*23,996*	*6*	*404*	(4)		.....
	Jan. 31, 1923	3,481	401	[28] 23,081	17	331	(4)		.....
Nigeria (British)	1921	2,824	44	1,909	4,007	174	.....	484	[13] 4
Norway [20]	Dec. 31, 1907	1,022	158	990	222	162	.....	.....	.....
	Dec. 31, 1920	1,095	127	957	178	216	.....	.....	.....
Nyasaland Protectorate	Mar. 31, 1913	63	22	23	138	.....	(4)	.....	.....
	Mar. 31, 1921	114	28	58	180	(4)	(4)	.....	.....
Palestine	1922	[1] [22] 110	1	262	482	[22] 7	[22] 4	[22] 33	[13] [29] 18
Panama	1916	200	30	.....	5	15	2	.....	.....

[1] Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
[4] Less than 500.
[13] Camels.
[19] Preliminary estimate for numbers within present boundaries in 1913.
[20] Animals owned by Europeans.
[22] Data for preceding year.
[23] Zebus.
[26] Animals on sugar estates only.
[27] In addition there were 216,400 designated as "sheep and goats."
[28] Apr. 30, 1923.
[29] In rural districts only. The numbers in cities on Jan. 1, 1918, compared with Dec. 31, 1907, in parentheses, were as follows: Cattle, 3,753 (5,133); swine, 4,478 (5,772); sheep, 1,479 (1,650); goats, 843 (500); horses, 7,945 (8,580).

TABLE 588.—*Livestock in undermentioned countries*—Continued.

Country.	Date.	Cattle.[1]	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscellaneous.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Papua (Territory of British)	1913	2	(4)	(4)	1	(4)			
	1921	2	1	(4)	1	(4)		(4)	
Paraguay	1915	5,249	61	600	87	478	17	18	
	Dec. 31, 1918	5,500	87	600	93	490	19	20	
Peru	Apr. 1, 1923	1,293	429	11,084	73,866	119			[15] 2,200
Philippine Islands	Dec. 31, 1913	418	2,017	104	529	179			[30] 1,047
	1920	761	3,639	196	822	269			[30] 1,464
Poland [10]	Summer, 1913	1,953	455	614	9	1,067			
	Sept. 30, 1921	*7,895*	*5,171*	*2,178*		*3,201*			
Portugal	Oct., 1906	*703*	*1,114*	*3,073*	*1,084*	*88*	*58*	*144*	
	Mar., 1920	741	921	3,851	1,493				
Rhodesia	1912	855	[30] 2	[32] 300	[32] 602	[32] 20			
	Dec. 31, 1922	1,801	[30] 22	317	[30] 21	[30] 3	[30] 2	[30] 9	
Rumania	1910-11 [31]	[1] 3,185	1,496	6,611	213	1,256	4		
	1922	[1] 5,933	3,147	12,321	552	1,802	3	10	
Russia: European, including Ukraine and Northern Caucasia	1913 [19]	30,736	11,569	42,400	1,163	22,437			
	1922	27,747	6,722	32,476	758	14,351			
Asiatic	1913 [19]	15,609	2,037	33,237	4,442	10,239			
	1922 [32]	7,278	1,038	9,314	1,745	5,456			
Salvador	1906	284	423	21		74			
St. Helena (British)	1911	*1*	(4)	*4*	*1*	(4)			
	1921	*1*	(4)	*3*	*1*	(4)	(4)	*1*	
St. Lucia (British)	1914					1			
	1922					1			
Serbia	Dec. 31, 1910	[1] *964*	*886*	*5,319*	*631*	*155*	*1*		
Shetland Islands	1919	14	(4)	141		5			
Seychelles Islands (British)	1913	1	6	(4)	(4)	(4)			
	1921	1		(4)	(4)	(4)		(4)	
Siam	Mar. 31, 1913	[1] 4,501	749			81			
	Mar. 31, 1923	[1] 6,137	[32] 864			156			[33] 7
Sierra Leone (British)	1910	2	(4)	1		(4)			
	1921	21		1					
Somaliland (Italian)	Feb. 1, 1920	1,246	1,666			11			[12] 2,101
Spain	1913	2,879	2,710	16,441	3,394	542	948	849	[13] 5
	1922	3,297	4,229	19,377	3,971	594	1,069	1,014	[13] 5
Straits Settlements and Labuan	1913	46	158			2			
	1919	67	267			2			
Swaziland (British)	1913	73	9	170		1	(4)	2	
	1922	225	9	38	123	1	(4)	3	
Sweden	Estimated average, 1913-14	3,069	1,023	1,205	119	660			
	1920	2,736	1,011	1,568	113	728			
Switzerland	Apr. 21, 1911	1,443	570	161	341	144	3	2	
	Apr. 21, 1921	1,425	640	245	330	134	4	1	
Syria	1922	293		1,092	1,316				[13] 35

[1] Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
[4] Less than 500.
[12] Camels.
[15] Llamas and alpacas.
[19] Preliminary estimate for numbers within present boundaries in 1913.
[30] Animals owned by Europeans.
[32] Data for preceding year.
[33] Carabao.
[31] Former Kingdom and Bessarabia. The number in 1911, excluding Bessarabia, was as follows: Cattle and buffaloes, 2,667,000; swine, 1,021,000; sheep, 5,269,000; goats, 187,000; horses, 825,000; mules and asses, 4,000.
[32] The 1920 census figures for Turkestan and Azerbaijan have been included in the 1922 figures for Asiatic Russia, as estimates for these republics were not included in the 1922 estimate.
[33] Elephants.

TABLE 588.—*Livestock in undermentioned countries*—Continued.

Country.	Date.	Cattle.[1]	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscellaneous.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Tanganyika Territory (former German East Africa)	1911	1,499	1	2,793					
	1921	3,147	2	3,455		(4)	(4)	11	
Trinidad and Tobago	Mar. 31, 1913	14	8	2	6	5			
	1920	10	9	3	(4)	4	4		
Tunis	Dec. 31, 1918	217	17	729	505	37	23	95	
	1922	462	18	2,820	1,002	75	24	137	[13] 134
Turkey, European and Asiatic	1907 and 1909[34]	[1] 8,190	225	27,106	18,924	1,263	249	1,745	[13] 327
	1919 [6]	4,118		11,200	2,965	630	85	825	[13] 95
Turks and Caicos Islands	1913	1	(4)	(4)		(4)			
	1919	1	(4)	(4)		(4)			
Uganda Protectorate	May 31, 1914	775		537		(4)			
	1922	920	(4)	267	838	(4)	(4)	(4)	
Union of South Africa	Dec. 31, 1911	*5,797*	*1,088*	*30,667*	*11,765*	*719*	*94*	537	
	Apr. 30, 1922[35]	8,919	895	31,501	8,257	923	115	743	
United Kingdom: England and Wales	June 4, 1913	5,717	2,102	17,130		1,402			
	June 4, 1923	5,923	2,612	13,836		1,281			
Scotland	June 4, 1913	1,247	132	6,801		204			
	June 4, 1923	1,190	185	6,763		203			
Ireland	June 4, 1913	4,933	1,060	3,621	246	614	30	243	
	June 4, 1922	5,157	1,037	3,567	250	544	20	232	
Uruguay	1908	*8,193*	*130*	*26,286*	*20*	*556*	*25*		
	Apr. 20, 1916	7,802	304	11,473	12	555	14	3	
Venezuela	1912	2,004	1,618	177	1,667	191	89	313	
	1920	[36] 2,778	512	113	2,155	168	55	200	
Yugoslavia	1923	4,090	4,887	8,462	1,901	1,044	15	86	
Grand total:[37] Pre-war		536,823	259,492	[38]588,939	[38] 125,163	[40]115,968	[40] 115,968	[42] 12,634	
Recent		579,923	223,967	[39]499,579	[39] 99,727	[41] 97,572	[41,43] 11,500	[41,43] 11,902	

Division of Statistical and Historical Research. In order to secure comparable totals, that pre-war estimate nearest to 1913 giving statistics for each class of animal, is compared with the latest estimate available. Census returns are in italics, other returns are in roman.

[1] Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.

[4] Less than 500. [6] Unofficial. [13] Camels.

[34] Comprised of the 1907 estimate for European Turkey and the 1909 estimate for Asiatic Turkey.

[35] As no estimate for the numbers of livestock in native locations and reserves was included in the 1922 estimate, the 1921 census figures for the numbers in these regions have been added to the 1922 estimate. They are as follows: Cattle, 2,355,678; swine, 353,988; sheep, 3,005,572; goats, 2,728,071; horses, 155,853; mules, 1,619; asses, 123,200.

[36] Year 1922.

[37] Pre-war and postwar totals are for approximately the same territory. Rough pre-war estimates have been included for former Russian territory according to 1923 boundaries, i. e., European and Asiatic Russia, Poland, Esthonia, Latvia, and Lithuania, Bessarabia being added to the pre-war Rumania estimate. Figures for Czechoslovakia and Yugoslavia are included in the total of recent estimates, since they were included in the pre-war estimates of the countries to which they formerly belonged.

[38] 13,124,000 designated as "sheep and goats" included with sheep.

[39] 5,674,000 designated as "sheep and goats" included with sheep.

[40] 219,000 designated as "horses, mules, and asses" and "horses and mules" included with horses.

[41] 278,000 designated as "horses, mules, and asses" and "horses and mules" included with horses

[43] 3,428,000 designated as "mules and asses" included with mules

[43] 2,229,000 designated as "mules and asses" included with mules.

POULTRY.

TABLE 589.—*Poultry and chickens on farms, and chicken eggs produced, United States, 1919–1924.*

Calendar year.	On hand, Jan. 1.				Production.			
	All poultry.		Chickens.		Chickens.		Chicken eggs.	
	Number	Value.	Number.	Value.	Number.	Value.	Dozens.	Value.
	Thousands.	*Thousand dollars.*	*Thousands.*	*Thousand dollars.*	*Thousands.*	*Thousand dollars.*	*Thousands*	*Thousand dollars.*
1919 (census)					473, 302	386, 240	1, 654, 045	676, 137
1920	[1] 372, 525	[1] 373, 394	[1] 330, 587	[1] 349, 509	474, 700	413, 734	1, 647, 043	725, 188
1921	370, 600		357, 700	319, 415	549, 700	392, 334	1, 888, 318	552, 616
1922	422, 400		408, 200	330, 615	579, 000	378, 450	1, 970, 755	509, 862
1923	429, 900		424, 900	316, 949	654, 200	438, 481	2, 196, 194	598, 961
1924	491, 000	376, 781	474, 500	351, 202				

Division of Crop and Livestock Estimates. [1] Census.

TABLE 590.—*Poultry: In undermentioned countries.*[1]

Country.	Date.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea fowls, pigeons, and undesignated poultry.	Total.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
United States:							
Continental United States	Apr. 15, 1910	*280, 341*	*3, 689*	*2, 907*	*4, 438*	*4, 498*	*295, 865*
	Jan. 1, 1920	*349, 537*	*8, 647*	*2, 818*	*2, 939*	*3, 904*	*372, 885*
	Jan. 1, 1921	357, 700					370, 600
	Jan. 1, 1922	408, 600					423, 400
	Jan. 1, 1923	424, 800					439, 900
	Jan. 1, 1924	474, 500					491, 600
Alaska	Apr. 15, 1910	*5*		(2)	(2)		*5*
	Jan. 1, 1920	*5*		(2)	(2)	(2)	*5*
Hawaii	Apr. 15, 1910	*64*	*2*	*26*	(2)	*4*	*96*
	Jan. 1, 1920	*66*	*2*	*9*	(2)	*2*	*79*
Porto Rico	Apr. 15, 1910	*599*	*14*	*9*	*1*	*46*	*669*
	Jan. 1, 1920	599	12	8	2	57	678
Samoa, American	Jan. 1, 1920	*13*		(2)			*13*
Austria	1900	23, 114		518	1, 771	1, 269	26, 672
	Dec. 31, 1910	*31, 743*		*647*	*1, 890*	*1, 601*	*56, 981*
	1922	[3] 7, 000					[3] 7, 000
Bulgaria	Dec. 31, 1900	*4, 045*	*200*	*154*	*373*		*4, 758*
Costa Rica	1914	656					656
Canada	Mar. 31, 1901	*16, 651*	*585*	*281*	*366*		*17, 883*
	June 1, 1911	*29, 773*	*365*	*527*	*650*		*31, 793*
	June 15, 1918	31, 335	1, 062	884	879		34, 160
	June 15, 1919	31, 786	839	777	893		34, 295
	June 15, 1920	28, 287	800	651	762		30, 500
	June 15, 1921	34, 340	1, 200	762	880		37, 182
	June 15, 1922	39, 928	1, 590	958	947		43, 423
	June 15, 1923	41, 356	2, 165	1, 046	961		45, 488
Denmark	July 15, 1903	11, 355					11, 355
	July 15, 1909	11, 816		792	119		12, 727
	July 15, 1914	15, 140	49	1, 022	162		16, 373
	July 15, 1918	9, 784					9, 784
	July 15, 1919	12, 134					12, 134
	July 15, 1920	[4] 14, 395					[4] 14, 395
	July 15, 1921	[4] 17, 803					[4] 17, 803
	July 15, 1922	[4] 19, 184					[4] 19, 184
	July 15, 1923	[4] 20, 009	[4] 51	[4] 793	[4] 283		21, 127
Finland	Sept. 1, 1920	869				*10*	879
French Indo-China	1921					18, 982	18, 982
Germany [5]	Dec. 1, 1900	55, 386				9, 057	64, 453
	Dec. 1, 1907	66, 905				10, 198	77, 103
	Dec. 1, 1912	73, 374				9, 328	82, 702
	Dec. 1, 1916	58, 953				6, 225	65, 178
	Dec. 1, 1919	44, 282		2, 332	4, 488		51, 022
	Dec. 1, 1920	53, 057		2, 371	5, 525		60, 953
	Dec. 1, 1921	60, 165		2, 016	5, 579		67, 760
	Dec. 1, 1922	58, 145		1, 668	5, 392		65, 206
Greece	1917					3, 794	3, 794
	1918					4, 453	4, 453
	1920					5, 073	5, 073
Japanese Empire:							
Japan	1910	20, 412		375			20, 787
	1911	20, 649		405			21, 054
	1912	20, 255		371			20, 626
	1913	19, 533		337			19, 870
	1914	19, 152		333			19, 485
	1915	20, 246		335			20, 581
	1916	22, 846		372			23, 218
	1917	26, 060		390			26, 450
	1918	25, 092		374			25, 466
	1919	25, 027		406			25, 433
	1920	24, 994		410			25, 404
	1921	27, 731		496			28, 227

[1] Census returns in italics; other returns in roman. No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Roumania, Serbia, Tunis, Uruguay and Venezuela.

[2] Less than 500.

[3] Estimate of Doctor Thalmayer of the Austrian Department of Agriculture.

[4] Includes South Jutland where the number of chickens amounted to 408,000 in 1920; 816,000 in 1921; 795,000 in 1922 and 900,000 in 1923; turkeys 3,000; ducks 14,000; geese 13,000.

[5] New boundaries for 1919 and subsequent years. The number of poultry for present boundaries in 1913 was 71,679,956.

TABLE 590.—*Poultry: In undermentioned countries*[1]—Continued.

Country.	Date.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea fowls, pigeons, and undesignated poultry.	Total.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Japanese Empire—Continued.							
Chosen (Korea)	1910					2,796	2,796
	1911					3,421	3,421
	1912					3,932	3,932
	1913					4,194	4,194
	1914					4,110	4,110
	1915					4,278	4,278
	1916					4,409	4,409
	1917					4,567	4,567
	1918					4,913	4,913
	1919					4,998	4,998
	1920					5,972	5,972
Karafuto	1910	8		(2)	(2)		8
	1911	12		(2)	(2)		12
	1912	12		(2)	(2)		12
	1913	17		(2)	(2)		17
	1914	13		(2)	(2)		13
	1915	14		(2)	(2)		14
	1916	21		(2)	(2)		21
	1917	24		(2)	(2)		24
	1918	23		(2)	(2)		23
	1919	25		(2)	(2)		25
	1920	30		(2)	(2)		30
Kenya Colony (British East Africa Protectorate)	1920					29	29
	1921					34	34
	1922					34	34
Luxemburg	Dec. 31, 1922	428					428
Netherlands	May-June 1904	*4,935*					*4,935*
	May-June 1910	*9,778*					*9,778*
	May-June 1921	*9,661*					*9,661*
New Zealand	1906	*2,784*	*77*	*282*	*44*	*4*	*3,191*
	1911	*3,215*	*88*	*329*	*45*	*6*	*3,693*
	Jan. 31, 1916	*3,141*	*57*	*221*	*47*	*2*	*3,468*
	Jan. 31, 1921	*3,492*	*73*	*380*	*46*		*3,991*
Norway	Sept. 30, 1907[3]	1,391	3	8	10		1,412
	Sept. 30, 1917[4]	1,860	5	6	12		1,883
	Jan. 1, 1918	1,668	3	4	5		1,680
	June 20, 1918[4]					*1,676*	*1,676*
	June 20, 1918					*1,736*	*1,736*
Rhodesia[7]	Dec. 31, 1921					159	159
	Dec. 31, 1922					133	133
Russia, European including Ukraine and Northern Caucasia	1920	*65,773*	*909*	*1,801*	*4,289*		*70,712*
Russia, Asiatic	1920	*12,979*	*86*	*987*	*2,419*		*16,411*
Spain	1921					25,103	25,103
Sweden	June 1, 1917	6,035	5	23	17		6,080
	June 1, 1918	4,775	4	15	18		4,812
	June 1, 1919	4,829	4	17	21		4,871
Switzerland	1918	2,386		19			2,405
	Apr. 21, 1921	*3,247*		*49*			*3,296*
Turkey (Asiatic)	1909					35,063	35,063
Union of South Africa	1911	*9,381*	*269*	*612*	*272*		*10,534*
	May 5, 1918	8,436	495	271	218		9,420
	Apr 30, 1919[8]	7,811	262	303	386		8,762
	Apr. 30, 1920[8]	7,138	181	318	210		7,847
	Apr. 30, 1921	*9,419*	*256*	*557*	*216*		*10,288*
	Apr. 30, 1922[9]	7,513	244	349	193		8,299
United Kingdom:							
England and Wales[10]	June 4, 1908	28,249	628	2,669	686		32,232
	June 4, 1913	29,026	652	2,188	577		32,443
	June 4, 1921	24,816	445	2,391	517		28,169
Scotland	June 4, 1913	4,054	57	209	21		4,341
	June 4, 1921	4,216	70	240	23		4,549
	June 4, 1922	4,276	67	243	22		4,603

[1] Census returns in italics; other returns in roman. No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Roumania, Serbia, Tunis, Uruguay and Venezuela.

[2] Less than 500.

[3] Rural communities only.

[4] Owned by Europeans only.

[8] The numbers in natives locations, reserves, etc., on April 30, 1918 have been added to the 1919 and 1920 estimates. The numbers thus added were as follows, in thousands: Chickens, 2,943; turkeys, 18; ducks, 52; geese, 18.

[9] The members in native locations reserves, etc., on April 30, 1921, have been added to the 1922 estimate. The members thus added were as follows, in thousands: Chickens 3,090; turkeys 12; ducks 46; geese 18.

[10] The agricultural schedule for 1921 included an inquiry as to the number of poultry on farms on June 4. Similar inquiries were made in 1908 and 1913.

TABLE 590.—*Poultry: In undermentioned countries*[1]—Continued.

Country.	Date.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea fowls, pigeons, and undesignated poultry.	Total.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
United Kingdom—Continued.							
Ireland [11]	June 4, 1909	.....	.....	.....	.....	24,105	24,105
	June 4, 1910	.....	.....	.....	.....	24,339	24,339
	June 4, 1911	.....	.....	.....	.....	25,448	25,448
	June 4, 1912	.....	.....	.....	.....	25,526	25,526
	June 4, 1913	.....	.....	.....	.....	25,701	25,701
	June 4, 1914	.....	.....	.....	.....	26,919	26,919
	June 4, 1915	.....	.....	.....	.....	26,089	26,089
	June 4, 1916	.....	.....	.....	.....	26,473	26,473
	June 4, 1917	.....	.....	.....	.....	22,245	22,245
	June 4, 1918	.....	.....	.....	.....	24,424	24,424
Yugoslavia	Jan. 31, 1921	.....	.....	.....	.....	*15,175*	*15,175*

Division of Statistical and Historical Research.

[1] Census returns in italics; other returns in roman. No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Roumania, Serbia, Tunis, Uruguay and Venezuela.

[11] It was found impracticable to make an estimate of the number of poultry in 1919 and 1920 but the returns indicated an increase.

TABLE 591.—*Poultry, dressed: Monthly receipts at four markets, 1920–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Boston:													
1920	3,934	1,749	1,597	1,037	1,404	2,221	1,858	1,696	2,096	2,628	5,911	7,895	34,086
1921	3,377	2,220	1,465	1,707	1,795	2,086	1,499	2,437	2,482	3,581	7,472	9,791	39,921
1922	4,175	2,765	2,478	1,705	2,551	2,853	2,091	2,198	2,479	3,306	7,488	10,444	44,563
1923	7,690	3,765	2,017	1,946	2,439	2,778	2,427	2,661	2,674	4,418	10,752	11,526	56,013
New York:													
1920	11,217	7,557	3,928	1,367	5,480	5,292	6,129	4,428	6,273	8,053	17,651	23,718	101,093
1921	11,441	7,006	5,190	5,021	4,883	6,150	5,314	8,992	10,277	11,887	21,182	27,208	124,551
1922	10,783	6,909	6,371	6,399	7,896	8,822	6,785	7,768	9,115	12,594	22,232	32,538	138,212
1923	21,730	12,335	8,590	6,916	6,804	8,589	9,414	9,497	9,653	16,509	26,822	27,289	163,948
Philadelphia:													
1920	1,553	1,881	1,906	918	1,466	1,286	1,019	1,215	1,044	1,588	2,348	5,382	21,606
1921	1,498	1,071	1,411	1,005	1,303	1,565	1,226	1,419	1,587	2,020	2,882	6,905	22,892
1922	1,947	1,790	1,077	664	1,182	1,304	1,237	1,217	1,237	1,356	2,653	5,655	21,319
1923	2,206	1,530	1,388	1,042	1,055	1,509	1,343	1,618	1,348	1,749	3,281	6,542	24,611
Chicago:													
1920	6,646	2,687	980	816	1,512	2,369	2,379	2,659	3,370	4,001	10,752	19,153	57,324
1921	6,343	3,328	2,794	2,104	2,421	2,524	2,097	2,615	3,804	4,157	15,723	17,082	64,992
1922	5,345	3,042	3,394	2,744	2,744	3,597	3,590	4,250	4,290	4,178	13,167	23,320	73,661
1923	11,497	5,208	4,057	2,532	2,912	3,329	3,679	4,018	4,724	5,411	15,163	27,743	90,273
Total four markets:													
1920	23,350	13,874	8,411	4,138	9,922	11,168	11,385	9,998	12,783	16,270	36,662	56,148	214,109
1921	22,659	13,634	10,860	9,837	10,402	12,325	10,136	15,463	18,150	21,645	47,259	59,986	252,356
1922	22,250	14,506	13,320	11,512	14,373	16,606	13,703	15,433	17,121	21,434	45,540	71,957	277,755
1923	43,123	22,858	16,752	12,436	13,210	16,205	16,863	17,794	18,399	28,087	56,018	73,100	334,845

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.
Gross weight.

TABLE 592.—*Poultry, frozen: Cold-storage holdings in United States, 1917–1923.*

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1917	32,184	35,601	27,796	25,988	67,242	64,286	60,194	54,132	50,093	46,737	51,743	49,561
1918	64,557	68,238	56,950	44,115	26,523	18,929	17,652	18,756	23,034	29,798	44,433	71,238
1919	108,722	119,675	109,627	92,897	71,162	55,616	49,212	40,573	32,918	30,492	33,139	54,749
1920	87,512	92,253	78,421	61,436	40,525	30,535	24,790	22,364	21,331	22,953	31,070	49,946
1921	79,025	81,096	79,001	62,315	47,651	35,408	27,268	21,188	20,064	25,602	34,876	65,167
1922	103,697	103,350	88,709	68,471	50,840	38,602	34,337	30,559	27,671	25,984	30,238	51,781
1923	100,170	121,632	113,503	94,872	74,562	57,274	49,100	41,250	34,131	33,142	40,363	63,274

Division of Statistical and Historical Research.

TABLE 593.—*Poultry, dressed: Receipts at five markets, by States of origin, 1923.*

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
Canada	35	2				30					40	13	120
Chicago	153	76	196	79	55	65	27	111	97	117	207	107	1,291
Illinois	3,073	1,650	1,159	1,015	1,376	1,488	1,269	1,498	1,266	2,229	2,592	3,417	22,027
Indiana	1,031	379	361	225	330	386	432	427	567	830	890	694	6,558
Iowa	1,417	741	393	136	115	116	309	337	428	503	1,360	1,222	7,131
Kansas	355	95	288	141	29	87	104	38	77	97	465	340	2,114
Kentucky	47	44	23	62	95	21				20	753	265	1,330
Maine	47	49	14	5		20	20	28	48	143	299	118	791
Maryland	8	2	1						1	7	37	3	59
Massachusetts	16	6	6	11	42	19	15	23	24	31	48	116	357
Michigan	103	46	37	1		8			3	52	122	160	527
Minnesota	327	88	50	3	2					121	654	977	2,222
Missouri	100	54	48	43	79	125	53	42	36	40	216	250	1,086
Montana											49	45	94
Nebraska	89	81	93	26	29	52	41	3	5		174	67	632
New Hampshire	5	2	2		1		1	2	1	8	18	7	47
New York	87	291	68	11	22	96	44	12	28	29	479	290	1,378
New York City	39	3	27	46	47	71	24	78	49	2	2	72	472
North Dakota	1	2	1								171	119	294
Ohio	189	97	14	3	58	65	44	37	36	49	319	230	1,141
Oklahoma	68	116	80	131	88	57					229	274	1,043
Pennsylvania	2		2	1		36	1		1	1	3	2	49
Philadelphia				2	21								23
South Dakota	4	1									25	91	121
Tennessee											35	4	39
Vermont	8	4	1		6				5	9	94	22	149
Wisconsin	27	3				32		19		1	29	180	291
Other States	462	44	36	1	44	14	48	3	3	40	1,453	2,440	4,588

NEW YORK.

Arkansas	87								22	50	124	43	326
California	8	6	210	209	96	122	104	128	2	2	169	6	1,061
Canada	6	164	141			1	50			2	19	149	532
Delaware	13	5	2	1		1	3	3	3	5	12	16	64
Georgia	6	2	1				1	2	1		1	1	15
Illinois	5,779	3,775	2,334	2,761	2,769	3,280	3,097	3,151	3,072	4,443	6,470	7,336	48,267
Indiana	2,488	1,376	822	651	623	893	1,116	1,242	1,071	1,758	1,840	1,984	15,814
Iowa	4,105	2,001	510	430	390	611	696	412	566	2,148	3,268	4,543	19,520
Kansas	2,011	1,607	1,322	588	528	1,034	1,034	974	1,076	1,812	1,961	1,009	15,151
Kentucky	296	196	346	576	765	553	309	389	326	587	580	601	5,524
Maryland	130	32	12	6	36	11	31	54	30	46	191	281	860
Massachusetts	10	10	16	59	26	58	145	69	38	87	92	22	632
Michigan	150	20	96	58	83	142	137	29	80	254	309	325	1,683
Minnesota	817	546	224	106	144	145	296	228	396	548	1,402	1,532	6,382
Missouri	2,135	659	507	400	335	614	806	932	1,349	1,817	2,309	2,677	14,630
Nebraska	216	262	195	367	58	84	142	112	134	449	476	641	3,036
New Jersey	479	234	73	17	34	28	22	37	32	105	236	274	1,552
New York	202	198	434	254	394	414	254	224	75	280	161	172	3,062
North Carolina	6	3		2	1	1	27	11			1	2	54
North Dakota	22	7	2								264	374	769
Ohio	604	242	40	52	124	99	271	213	323	611	675	887	4,131
Oklahoma	186	72	268	141	224	45	46	191	153	203	693	482	2,704
Oregon			31		1		37	25			31	28	153
Pennsylvania	107	62	44	46	102	83	78	93	102	66	141	161	1,085
South Dakota	276	133			1		78	58	89	114	57	334	1,140
Tennessee	211	151	209	249	181	187	185	392	363	490	548	282	3,445
Texas	1,006	402	140	45		48	40	39	22		3,115	2,349	7,206
Utah	9		10								157	24	200
Virginia	124	29	9	3	42	61	366	284	205	263	471	248	1,956
Washington		32	61		6	20	58	13			2	46	238
West Virginia	2	2				2		4		3	10	10	33
Wisconsin	142	90	102	1	4	50	49	154	222	365	824	354	2,364
Other States	10	5	26	4		3	3	34			126	148	359

TABLE 592.—*Poultry, dressed: Receipts at five markets, by States of origin, 1923*—Continued.

PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Delaware	11	12	7	9	5	7	3	1	2		13	68	138
Illinois	734	769	653	506	426	459	724	616	628	459	1,223	2,300	9,407
Indiana	184	53	115	93	155	171	138	141	117	175	268	152	1,762
Iowa	143	118	40	4		17	47	110	87	66	230	262	1,124
Kansas	43	50		10	45	118	12	66	23	81	111	96	655
Kentucky	4	2	2		27	1		21			5	6	68
Maryland	2	4	6	5	1	13	2		40	28	46	109	255
Michigan		1			28					5	2		36
Minnesota	378	125	32		13	53	45	110	106	426	355	716	2,359
Missouri	166	54	56	29	27	52	5	10	14	1	34	44	522
Nebraska	1		42	72	65	44		14	20		7	33	298
New Jersey	5	3	5	1		55					1	1	71
New York	4	3	57	21	13	37	28	81		2	23	97	368
North Carolina	3		3	3	2	2			46		3	4	66
North Dakota	1	4	1								56	598	660
Ohio	55	67	18	20	8	73	52	29	23	48	171	256	820
Oklahoma	43		76	18			40	108		39	118	4	446
Pennsylvania	86	59	69	87	58	80	82	69	81	182	152	255	1,200
South Dakota	1	2	1								10	2	16
Tennessee	1	2	3		2						6	4	18
Texas	27				19						21	63	130
Virginia	152	130	134	109	111	139	101	97	107	157	283	1,068	2,588
West Virginia	67	70	63	54	49	52	42	34	33	47	92	354	957
Wisconsin	93	2	3			33	24	111	22	32	46	40	406
Other States						43					3	21	67

CHICAGO.

Alabama			2	1	1	3	1	1			1	1	11
Arkansas	21	52	52	64	43	25	13	5	25	5	13	54	372
Canada	25				5								30
Colorado		3	1								3	73	80
Georgia	25								1				26
Idaho												40	40
Illinois	2,142	1,190	1,097	815	1,204	976	1,164	1,492	1,454	1,260	2,027	2,676	17,407
Indiana	115	96	47	50	60	56	34	43	52	43	79	143	818
Iowa	3,372	1,124	860	462	639	801	744	675	1,021	1,137	2,599	5,220	18,654
Kansas	617	171	123	69	25	217	169	170	361	511	561	608	3,602
Kentucky	104	78	174	94	72	41	82	64	42	57	81	48	937
Michigan	40	44	26	3	18	9	9	11	29	18	41	28	276
Minnesota	1,462	944	392	365	207	107	277	248	240	531	1,832	4,159	10,764
Mississippi	11	6	9	9	8	9	2	4	15	5	8	8	94
Missouri	787	190	202	184	228	338	337	354	565	623	1,115	1,308	6,231
Montana	11	31	3								406	1,049	1,500
Nebraska	469	115	113	31	2	32	70	5	60	92	292	532	1,813
New Jersey			1								28		29
New York	57	39	1	2	26	41	20	66	56	22	5		335
North Dakota	304	231	194	23	7	23	10	7	14	15	2,901	3,865	7,594
Pennsylvania		14		1	2			19	2	3			41
Ohio	3	1		29			2	6			1	4	46
Oklahoma	336	116	54	34	109	70	112	139	201	312	280	454	2,217
South Dakota	424	242	230	64	38	128	85	121	117	164	751	2,135	4,509
Tennessee	13	52	104	86	59	17	76	132	98	39	110	30	810
Texas	346	33	4	23	21	56	73			1	362	3,587	4,507
Wisconsin	901	433	367	123	133	380	393	449	378	574	1,639	1,692	7,372
Wyoming											8	31	39
Other States			1				1	8			19	1	30

SAN FRANCISCO.

California	685	612	83	44	57	99	166	48	32	45	944	1,361	4,178
Idaho		7				24				1	51	135	218
Illinois		31			37	30	66	36	27	28			255
Kansas	80		24	56	86					25	78		349
Nevada	8	9			2			24				132	175
Oregon	24	43	21	1		58	13	18	16	17	39	28	278
Washington	29	45	49	36	4	30		8	40	32	23	42	339
Other States	24			26								71	121

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

TABLE 594.—*Poultry (live): International trade, calendar years, 1909–1922.*[1]

Country.	Average, 1909–1913		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Austria-Hungary	2,453	4,114						
Austria-Hungary*	8,435	16,617						
Canada	15	(2)	141	705	249	857	418	609
China	15	2,462	14	3,291	36	3,871	31	3,743
Finland	17	30	(3)		(3)	(3)		
Italy*	2,010	9,606	6	724	786	2,185	3,967	2,575
Netherlands	(4)	(4)	3	22	24	129	63	339
PRINCIPAL IMPORTING COUNTRIES.								
Belgium*	1,797	685	82	10	763	383	1,296	1,442
Denmark	26	2	1	2	2	(3)		
France*	8,967	795	2,771	110	11,345	118	17,504	294
Germany:								
Geese	8,111	32	237	3	293	1	54	1
Other poultry*	29,329	278	18	9	159	55	339	76
Switzerland*	1,382	28	398	2	1,144	4	879	4
United Kingdom	877	50	2	5	61	8	224	14
Total reported in number	11,514	6,690	398	4,028	665	4,866	790	4,706
Total reported in pounds*	52,420	28,009	3,275	855	14,197	2,745	23,925	4,391

Division of Statistical and Historical Research. Official sources.

[1] Items carrying an asterisk (*) in the stub were reported in pounds and are shown in thousands of pounds.
[2] Expressed only in value.
[3] Less than 500.
[4] Not separately stated.

TABLE 595.—*Poultry (dead): International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Austria-Hungary	371	9,854						
Belgium	232	1,649	169	8	149	89	153	290
China	(1)	1,211	(1)	6,155	(1)	1,644	(1)	1,989
Finland	373	1,162	86	756	1	876		797
France	2,920	12,296	1,442	3,610	1,997	5,334	3,659	6,627
Italy	288	6,019	28	1,484	957	2,335	1,029	3,786
Netherlands	(1)	(1)	4	181	37	502	44	933
PRINCIPAL IMPORTING COUNTRIES.								
Austria			1,541	109	3,012	288		
Cuba	76		350					
Denmark	1,765	10	7	41	418	25		
Germany	18,875	535	451	36	[2] 46	[2] 51	65	69
Norway	63		21		24	2		
Sweden	349	12	102	4	227	4		
Switzerland	8,319	13	3,546	1	4,196	2	4,245	4
United Kingdom	10,994	127	8,125	91	8,818	185	18,676	272
Total 15 countries	44,625	32,888	15,872	12,476	19,882	11,337	27,871	14,767

Division of Statistical and Historical Research. Official sources.

[1] Not separately stated.
[2] Eight months, May–December.

TABLE 596.—*Chickens: Farm price per pound, 15th of month, United States, 1910–1923.*

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1910–11	12.2	12.0	11.8	11.4	11.0	10.6	10.6	10.6	10.7	10.9	11.0	11.1	11.0
1911–12	11.2	11.2	11.0	10.6	10.0	9.7	10.0	10.4	10.6	11.0	11.1	11.0	10.4
1912–13	11.2	11.3	11.4	11.4	11.0	10.8	10.8	11.0	11.4	11.7	11.9	12.0	11.2
1913–14	13.0	12.8	12.7	13.0	11.4	11.3	11.5	12.0	12.4	13.0	12.7	13.1	12.0
Av. 1910–1913	11.9	11.8	11.7	11.6	10.8	10.6	10.7	11.0	11.3	11.6	11.7	11.8	11.2
1914–15	13.4	13.1	12.8	12.0	11.1	10.7	10.9	11.3	11.7	11.9	12.0	12.2	11.5
1915–16	12.2	12.2	12.0	11.8	11.5	11.2	11.5	12.1	12.5	13.1	13.6	14.0	12.0
1916–17	14.1	14.1	14.2	14.4	13.9	13.6	14.1	15.1	15.7	17.3	17.5	17.7	14.6
1917–18	17.4	16.7	18.4	18.5	17.0	17.5	18.4	20.3	20.2	20.7	20.6	21.3	18.4
1918–19	23.2	23.4	23.6	22.2	21.7	22.4	22.1	21.8	23.4	25.7	26.7	26.4	23.0
1919–20	26.8	26.1	25.0	23.3	22.0	22.0	23.3	25.7	26.9	28.4	28.0	27.4	24.2
1920–21	28.4	26.6	26.9	24.6	22.9	20.7	21.7	22.3	22.8	22.2	21.8	21.5	22.8
Av. 1914–1920	19.4	18.9	19.0	18.1	17.2	16.9	17.4	18.4	19.0	19.9	20.0	20.1	18.1
1921–22	21.7	21.4	20.2	19.1	18.6	18.2	18.9	19.0	19.4	20.0	20.2	20.6	19.8
1922–23	20.7	18.9	18.6	18.1	17.2	17.2	17.3	18.6	18.8	19.4	20.1	20.3	18.2
1923–24	20.6	19.8	19.7	19.0	17.7	16.6	.....	.....	.....	.....	.....	.....	.....

Division of Crop and Livestock Estimates.

TABLE 597.—*Turkeys: Farm price per pound, 15th of month, United States, 1912–1923.*

Year beginning Oct. 1.	Oct. 15.	Nov. 15.	Dec. 15.	Jan. 15.	Year beginning Oct. 1.	Oct. 15.	Nov. 15.	Dec. 15.	Jan. 15.
	Cents.	*Cents.*	*Cents.*	*Cents.*		*Cents.*	*Cents.*	*Cents.*	*Cents.*
1912–13	13.6	14.4	14.8	14.9	1918–19	23.9	25.7	27.0	27.3
1913–14	14.6	15.2	15.5	15.5	1919–20	26.6	28.3	31.1	32.0
1914–15	14.1	14.1	14.5	14.5	1920–21	30.0	31.8	33.1	33.0
1915–16	13.7	14.8	15.5	15.6	1921–22	25.7	28.2	32.5	30.7
1916–17	17.0	18.6	19.6	19.5	1922–23	25.1	29.5	32.3	29.7
1917–18	20.0	21.0	23.0	22.9	1923–24	26.6	27.9	24.5	.....

Division of Crop and Livestock Estimates.

EGGS.

TABLE 598.—*Eggs: Monthly receipts, at five markets, 1917–1923.*

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 cases.	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases*	*1,000 cases*	*1,000 cases.*
Boston:													
1917	56	75	171	252	318	193	113	87	84	80	43	30	1,502
1918	31	59	192	309	305	171	133	119	91	96	46	52	1,604
1919	67	116	184	327	235	189	148	128	80	97	48	40	1,559
1920	72	113	149	253	384	204	119	110	95	66	49	34	1,648
1921	84	138	206	359	294	183	137	130	100	88	52	52	1,823
1922	101	133	214	403	312	224	143	105	85	106	74	70	1,970
1923	99	106	244	285	381	219	128	131	101	108	73	69	1,944
New York:													
1917	143	139	405	747	738	565	395	337	333	284	169	102	4,357
1918	106	155	712	908	681	551	483	450	333	288	183	177	5,027
1919	214	486	667	1,026	911	669	532	438	377	318	192	178	6,008
1920	207	315	618	563	697	725	470	370	334	272	209	211	4,991
1921	314	476	909	1,012	742	681	525	517	440	362	251	260	6,579
1922	335	424	919	1,178	994	784	574	427	381	337	226	242	6,821
1923	386	447	981	924	1,163	796	596	528	416	377	270	272	7,156
Philadelphia:													
1918	.....	.....	112	164	190	164	147	107	102	112	63	56	1,217
1919	64	100	174	301	271	185	129	115	107	119	76	63	1,704
1920	76	81	120	164	242	180	107	116	118	81	57	54	1,396
1921	64	120	202	237	235	158	121	145	124	100	66	70	1,642
1922	109	113	192	316	273	142	126	124	108	76	60	64	1,703
1923	104	111	179	187	278	196	131	128	141	110	74	88	1,727

TABLE 598.—*Eggs: Monthly receipts, at five markets, 1917–1923*—Continued.

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	1,000 cases.	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*
Chicago:													
1917	118	86	376	927	1,209	897	626	460	361	295	193	150	5,679
1918	108	29	415	1,027	926	733	564	460	338	240	124	86	5,050
1919	101	253	458	1,024	915	767	401	275	220	125	51	27	4,617
1920	109	251	458	940	800	620	360	260	217	132	47	40	4,134
1921	133	356	679	750	684	460	297	258	201	137	86	114	4,155
1922	210	296	525	887	898	695	389	300	191	149	82	71	4,684
1923	198	308	619	775	943	768	424	332	276	191	84	96	5,009
San Francisco:													
1917	80	76	94	91	92	79	52	45	35	37	28	37	716
1918	53	81	80	93	82	71	51	39	34	27	26	29	667
1919	48	59	73	83	93	80	66	62	42	32	27	33	698
1920	44	55	102	114	80	76	67	55	42	43	30	43	757
1921	58	71	123	109	109	79	62	57	44	40	33	35	811
1922	54	59	102	118	106	81	72	63	51	45	42	45	838
1923	65	60	95	97	87	92	70	61	54	58	54	62	855

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

TABLE 599.—*Eggs: Receipts at five markets, by States of origin, 1923.*

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 cases.	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*	*1,000 cases.*
Chicago	13	14	13	1	3	----	2	----	----	2	2	1	51
Illinois	28	39	108	137	168	101	55	61	38	43	12	10	795
Indiana	6	9	21	47	66	27	13	9	13	10	7	5	233
Iowa	3	7	19	19	32	15	11	13	9	8	6	4	146
Kansas	9	9	24	4	----	----	1	2	1	2	4	5	61
Maine	9	8	9	9	13	14	11	10	10	11	9	9	122
Massachusetts	2	1	1	1	1	----	2	1	1	1	4	6	21
Michigan	----	1	1	7	7	6	6	5	5	3	1	1	43
Minnesota	2	----	3	15	34	18	6	9	6	9	4	3	109
Missouri	8	4	21	7	7	4	3	2	4	5	6	7	78
Nebraska	3	2	3	1	2	1	1	1	----	----	2	3	19
New Hampshire	6	4	6	5	4	4	3	2	2	3	3	2	44
New York	2	1	1	2	4	4	2	2	2	3	5	4	32
Ohio	3	3	6	17	20	13	5	6	5	4	3	2	87
Vermont	3	3	3	3	4	5	3	3	2	3	2	2	36
Wisconsin	1	----	----	----	2	3	3	1	1	1	----	----	12
Other States	2	2	9	12	11	3	2	3	----	3	3	3	53

NEW YORK.

California	26	53	94	27	35	14	31	36	31	21	33	29	430
Delaware	3	4	9	9	9	7	5	5	3	3	2	4	63
Illinois	63	75	184	196	210	160	115	95	78	74	50	42	1,342
Indiana	18	23	63	88	115	87	47	47	33	27	15	12	575
Iowa	20	20	54	108	193	151	124	95	67	60	24	18	934
Kansas	18	31	52	25	21	16	12	19	12	19	6	10	242
Kentucky	8	10	29	22	16	6	2	2	2	2	2	3	104
Maryland	7	8	18	18	18	11	16	7	6	6	4	5	124
Massachusetts	2	3	----	----	1	----	----	1	3	1	1	----	12
Michigan	3	3	7	12	25	20	8	8	8	7	3	3	107
Minnesota	6	5	12	26	58	38	38	26	24	18	9	4	264
Missouri	39	40	98	51	60	23	21	26	25	31	21	18	453
Nebraska	3	4	16	2	9	4	1	8	3	2	1	2	55
New Jersey	16	14	24	27	30	20	14	12	10	8	8	16	199
New York	37	34	55	90	135	87	58	39	31	25	23	31	645
Ohio	14	18	43	67	67	75	36	29	28	24	7	8	436
Oregon	2	4	4	3	----	2	1	7	2	1	6	3	35
Pennsylvania	14	16	25	35	36	28	24	19	14	9	7	11	238
South Dakota	----	----	1	2	4	4	2	4	3	2	1	----	23
Tennessee	30	29	78	44	34	5	4	2	3	3	7	10	249
Texas	2	7	22	6	4	----	----	----	----	----	----	----	41
Utah	1	1	2	1	2	2	2	2	1	1	1	4	20
Virginia	8	7	24	21	18	5	4	3	2	2	2	3	99
Washington	37	30	22	20	14	14	22	22	16	16	28	29	271
Wisconsin	2	----	2	6	14	5	2	6	7	7	2	1	54
Parcel post	3	3	6	7	9	7	5	4	4	4	3	3	58
Other States	5	6	36	10	10	2	1	1	1	5	4	2	85

TABLE 599.—*Eggs: Receipts at five markets, by States of origin, 1923*—Contd.

PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 cases.	1,000 cases	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases	1,000 cases.	1,000 cases.	1,000 cases.
Delaware	3	4	9	9	9	5	4	2	2	2	2	2	53
Illinois	28	15	19	20	57	25	33	22	29	24	19	21	312
Indiana	4	6	10	16	27	20	11	12	9	6	2	2	125
Iowa	1	2	4	10	11	11	6	8	14	7	5	1	80
Kansas	7	17	18	1	2	6	2	4	8	2	----	3	70
Kentucky	1	1	2	1	2	1	----	----	----	----	----	----	8
Maryland	4	5	11	11	13	5	5	3	2	2	2	3	66
Michigan	----	----	4	16	50	32	16	18	16	10	1	----	163
Minnesota	1	2	6	8	6	8	5	10	11	12	4	2	75
Missouri	20	9	11	9	6	16	12	13	18	12	5	17	148
Nebraska	2	10	11	3	4	1	----	----	2	1	1	1	36
New York	3	----	1	1	2	3	1	2	2	4	8	8	35
Ohio	4	4	5	14	24	15	7	9	9	7	2	2	100
Pennsylvania	12	16	24	25	25	19	12	10	6	8	7	10	174
South Dakota	----	----	1	2	1	2	2	3	1	3	1	----	16
Tennessee	1	3	7	6	6	1	----	----	----	----	----	1	25
Texas	1	1	7	2	----	----	----	----	----	----	----	----	11
Virginia	7	9	18	23	20	19	12	9	7	8	6	11	149
West Virginia	2	2	4	3	3	2	2	1	2	2	1	2	26
Wisconsin	1	1	1	2	7	3	2	4	4	2	5	2	34
Other States	2	2	8	4	2	1	----	----	----	----	----	1	20

CHICAGO.

Arkansas	1	4	6	5	3	----	----	----	1	----	----	----	20
Illinois	12	12	29	42	59	45	19	15	8	8	3	4	256
Indiana	1	1	1	2	1	2	1	1	----	----	----	1	11
Iowa	30	57	101	159	204	178	83	63	49	31	16	25	996
Kansas	33	60	110	64	85	38	25	32	26	16	5	7	501
Michigan	1	1	1	1	3	3	4	1	1	1	----	1	18
Minnesota	12	13	36	76	116	129	72	53	48	27	15	13	610
Missouri	36	53	97	196	173	117	53	40	43	41	16	15	880
Nebraska	22	46	55	43	49	36	28	23	21	14	10	12	359
North Dakota	----	----	1	6	8	8	2	3	3	2	----	----	33
Oklahoma	17	22	46	8	5	----	1	----	1	----	----	1	101
South Dakota	8	19	55	74	92	93	72	50	41	30	8	9	551
Tennessee	1	1	2	4	1	----	----	----	----	1	1	----	11
Texas	4	2	27	10	4	----	----	----	----	----	2	----	49
Wisconsin	16	14	45	79	132	112	65	51	34	21	7	8	594
Other States	3	3	7	5	8	1	----	----	1	----	----	----	28

SAN FRANCISCO.

California	63	60	94	96	85	89	66	57	49	54	53	59	825
Idaho	----	----	----	----	1	2	1	1	1	----	----	----	6
Oregon	2	----	----	1	1	1	1	2	2	2	----	1	13
Washington	----	----	----	----	----	1	1	1	2	2	1	2	10

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

TABLE 600.—*Eggs, case: Cold-storage holdings in United States, 1916–1923.*

Calendar year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.
1916	1,508	458	35	264	2,327	4,593	5,574	6,060	5,600	4,868	3,985	2,146
1917	920	149	7	190	2,105	4,922	6,617	6,895	6,436	5,837	4,638	2,948
1918	1,300	200	20	344	2,957	5,499	6,554	6,568	6,265	5,369	3,812	2,071
1919	740	130	26	320	3,278	6,098	7,559	7,850	7,685	6,858	5,067	3,341
1920	1,542	342	20	122	2,135	5,143	6,747	6,872	6,372	5,295	3,838	1,824
1921	408	43	43	1,926	4,900	6,844	7,534	7,605	7,210	6,289	4,380	2,403
1922	889	179	18	950	4,648	8,066	9,811	10,161	9,606	7,994	5,726	3,257
1923	1,311	213	13	453	3,737	7,890	10,222	10,509	9,883	8,737	6,645	4,028

Division of Statistical and Historical Research.

TABLE 601.—*Eggs in the shell: International trade, 1909–1922.*

Country.	Calendar years.							
	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 dozens.*	*1,000 dozens.*	*1,000 dozens.*	*1,000 dozens.*	*1,000 dozens.*	*1,000 dozens.*	*1,000 dozens.*	*1,000 dozens.*
Argentina	2,351	.....	(1)	1,883	.....	6,358	.....	3,557
Austria	.....	.....	3,866	.....	5,417	.....	.....	.....
Austria-Hungary	91,561	177,163	.....	.....	.....	.....	.....	.....
China	270	25,542	183	53,892	139	98,393	234	98,496
Denmark	2,248	34,340	95	45,517	86	54,007	682	60,840
Finland	2,899	3	(1)	.....	(1)	871	.....	324
Italy	4,104	33,482	39	346	316	392	2,534	13,363
Netherlands	19,542	29,360	61	651	1,047	9,738	1,392	13,067
United States	[2] 1,701	12,108	1,709	26,842	3,063	33,291	1,019	34,620
PRINCIPAL IMPORTING COUNTRIES.								
Belgium	19,148	11,521	521	60	4,394	137	9,473	1,179
Canada	6,341	148	6,516	6,323	6,583	5,444	8,141	3,619
Cuba	4,732	.....	9,925	.....	.....	.....	.....	.....
France	37,215	8,920	11,370	1,216	11,847	1,451	26,711	6,588
Germany	228,279	675	2,452	100	[3] 1,422	[3] 913	194	1,069
Japan	6,867	.....	23,534	.....	53,277	.....	.....	.....
Norway	387	4	4,519	3	4,669	2	4,521	.....
Sweden	4,207	3,781	2,190	823	2,047	989	2,519	828
Switzerland	19,747	48	7,950	(1)	14,685	(1)	14,633	(1)
United Kingdom	190,015	.....	70,598	10	105,305	28	136,617	.....
Total 19 countries	641,609	337,095	145,528	137,666	214,317	212,014	208,670	237,572

Division of Statistical and Historical Research. Official sources.

[1] Less than 500 dozen. [2] One year only. [3] Eight months, May–December.

TABLE 602.—*Eggs not in the shell: International trade, calendar years, 1909–1922.*

Country.	Average 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
China	.....	17,217	.....	99,442	.....	64,545	.....	94,455
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	1,100	188	.....	.....	.....	.....	.....	.....
Denmark	526	[4] 6	629	1	291	9	.....	.....
France	1,967	426	3,740	19	2,037	26	3,860	15
Germany	11,214	3,225	5,707	412	[2] 6,105	[3] 556	9,717	1,362
Italy	381	4	1,839	.....	202	27	1,056	6
Netherlands	.....	.....	2,050	258	3,014	486	487	796
Sweden	[3] 255	(4)	251	89	.....	.....	.....	.....
United Kingdom	(5)	(5)	45,284	445	42,609	453	41,863	.....
United States	.....	.....	38,134	(6)	22,537	(6)	24,809	718
Total ten countries	15,443	21,066	97,634	100,666	76,795	66,102	81,792	97,352

Division of Statistical and Historical Research. Official sources.

[1] Three-year average. [2] Two-year average. [5] Not separately stated.
[3] Eight months, May–December. [4] Less than 500 pounds. [6] Expressed only in value.

TABLE 603.—*Eggs: Farm price per dozen, 15th of month, United States, 1910–1923.*

Year beginning Apr. 1.	Apr.	May.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Weighted av.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1910–11	18.6	18.4	18.2	17.9	18.5	20.9	22.8	27.2	29.7	26.2	19.3	15.7	19.3
1911–12	14.8	14.6	14.4	14.8	16.4	18.7	21.8	26.1	29.1	29.3	26.8	21.2	18.2
1912–13	17.4	16.9	16.7	17.0	18.2	20.6	24.0	27.8	28.2	24.8	21.1	17.9	18.9
1913–14	15.9	16.5	16.8	16.4	17.7	21.3	26.0	31.3	32.9	29.8	25.3	22.2	19.8
Av. 1910–1913	16.7	16.6	16.5	16.5	17.7	20.4	23.9	28.1	30.0	27.5	23.1	19.2	19.0
1914–15	16.4	16.9	17.2	17.5	19.1	22.5	23.7	28.2	31.9	31.7	23.7	16.5	19.3
1915–16	16.6	16.5	16.1	16.3	17.3	20.6	24.6	29.4	31.1	28.8	24.2	18.2	19.0
1916–17	17.7	18.5	18.9	19.9	21.6	25.3	30.4	34.9	38.3	38.1	35.7	25.3	23.3
1917–18	28.5	30.2	29.9	29.0	30.5	35.8	38.5	41.2	45.9	48.9	45.8	30.9	33.0
1918–19	30.4	30.6	29.5	33.0	35.2	39.1	44.9	51.7	59.3	55.3	34.8	33.9	34.9
1919–20	36.0	38.9	36.1	37.9	40.6	43.1	51.0	59.1	69.6	60.9	48.5	40.5	41.8
1920–21	36.6	37.5	35.9	37.8	42.5	48.6	54.6	62.9	67.1	54.5	31.0	26.8	39.3
Av. 1914–1920	26.0	27.0	26.2	27.3	29.5	33.6	38.2	43.9	49.0	45.5	34.8	27.4	30.1
1921–22	20.5	19.4	20.1	24.3	28.9	30.9	29.4	50.0	51.1	31.7	31.4	19.5	25.3
1922–23	20.0	20.9	20.2	20.3	20.6	27.3	34.6	43.6	47.2	37.8	29.9	25.4	24.7
1923–24	21.6	21.8	20.9	21.3	23.6	29.8	34.6	45.6	45.5	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 604.—*Eggs: Average price per dozen at certain cities, 1910–1923.*

WESTERN FIRSTS, AT BOSTON.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	$0.32	$0.27	$0.23	$0.22	$0.21	$0.20	$0.19	$0.21	$0.24	$0.26	$0.30	$0.32	$0.25
1911	.27	.19	.17	.17	.17	.16	.18	.18	.20	.25	.29	.33	.21
1912	.33	.36	.22	.21	.20	.19	.20	.21	.25	.28	.31	.30	.26
1913	.26	.24	.20	.20	.21	.20	.18	.23	.28	.30	.40	.36	.26
1914	.33	.30	.25	.20	.21	.20	.21	.23	.25	.26	.34	.38	.26
1915	.36	.27	.20	.21	.20	.19	.19	.20	.25	.28	.32	.34	.25
1916	.31	.27	.23	.22	.23	.23	.24	.27	.31	.34	.40	.46	.29
1917	.45	.43	.31	.34	.36	.33	.34	.37	.41	.41	.49	.56	.40
1918	.63	.57	.38	.36	.35	.35	.41	.42	.46	.54	.65	.68	.48
1919	.63	.45	.42	.44	.47	.43	.45	.46	.47	.61	.67	.80	.52
1920	.71	.60	.48	.45	.45	.43	.45	.50	.55	.62	.76	.80	.57
Av. 1914–1920	.49	.41	.32	.32	.32	.31	.33	.35	.39	.44	.52	.57	.40
1921	.68	.43	.31	.27	.25	.26	.32	.34	.38	.49	.60	.54	.41
1922	.42	.40	.26	.26	.27	.25	.24	.25	.38	.44	.53	.55	.35
1923	.43	.38	.31	.28	.27	.25	.25	.28	.33	.40	.55	.48	.35

FRESH FIRSTS, AT NEW YORK.

1910	$0.38	$0.27	$0.23	$0.22	$0.21	$0.20	$0.18	$0.21	$0.24	$0.26	$0.31	$0.34	$0.25
1911	.28	.19	.17	.17	.17	.15	.17	.18	.21	.24	.32	.35	.22
1912	.34	.36	.22	.20	.19	.19	.20	.21	.24	.26	.31	.29	.25
1913	.24	.22	.19	.19	.20	.19	.19	.23	.27	.29	.39	.36	.25
1914	.33	.29	.26	.20	.20	.21	.21	.24	.26	.27	.35	.38	.27
1915	.38	.26	.20	.21	.20	.20	.20	.22	.26	.30	.35	.34	.26
1916	.31	.26	.22	.22	.22	.23	.25	.30	.33	.34	.41	.46	.30
1917	.46	.45	.31	.34	.35	.33	.34	.38	.41	.41	.49	.57	.40
1918	.65	.58	.38	.35	.35	.36	.41	.43	.47	.53	.65	.67	.49
1919	.62	.44	.44	.43	.46	.44	.46	.48	.51	.62	.69	.79	.53
1920	.71	.59	.48	.44	.44	.43	.47	.51	.57	.64	.77	.78	.57
Av. 1914–1920	.49	.41	.33	.31	.32	.31	.33	.36	.40	.44	.53	.57	.40
1921	.67	.42	.31	.27	.25	.27	.33	.35	.39	.49	.58	.54	.41
1922	.41	.38	.25	.26	.27	.25	.24	.26	.39	.43	.53	.53	.35
1923	.42	.37	.31	.27	.27	.24	.25	.29	.35	.39	.53	.47	.35

TABLE 604.—*Eggs: Average price per dozen at certain cities, 1910–1923*—Continued.

WESTERN EXTRA FIRSTS AT PHILADELPHIA.

Calendar year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.	Average.
1910	$0.36	$0.29	$0.23	$0.22	$0.22	$0.21	$0.22	$0.24	$0.26	$0.29	$0.33	$0.37	$0.27
1911	.26	.21	.18	.18	.18	.17	.18	.20	.23	.27	.34	.33	.23
1912	.34	.36	.23	.21	.20	.21	.22	.23	.26	.30	.34	.31	.27
1913	.26	.23	.19	.19	.21	.21	.22	.27	.30	.33	.39	.37	.26
1914	.34	.28	.27	.30	.21	.22	.22	.20	.28	.30	.35	.40	.28
1915	.39	.27	.20	.21	.20	.20	.20	.23	.27	.32	.39	.36	.27
1916	.31	.28	.23	.22	.23	.24	.26	.29	.33	.36	.41	.45	.30
1917	.47	.45	.31	.35	.36	.35	.36	.39	.42	.42	.48	.36	.41
1918	.62	.61	.37	.37	.36	.39	.43	.46	.50	.56	.67	.69	.50
1919	.63	.44	.41	.44	.47	.46	.51	.52	.54	.65	.73	.80	.53
1920	.73	.62	.45	.44	.45	.47	.50	.54	.60	.67	.81	.80	.59
Av. 1914–1920	.50	.42	.32	.32	.33	.33	.35	.38	.42	.47	.55	.58	.41
1921	.66	.43	.32	.28	.25	.28	.35	.39	.41	.53	.64	.57	.43
1922	.42	.40	.26	.27	.27	.27	.26	.27	.39	.48	.59	.55	.37
1923	.43	.38	.31	.28	.29	.27	.29	.33	.42	.48	.62	.52	.38

FRESH FIRSTS AT CHICAGO.

1910	$0.34	$0.26	$0.21	$0.20	$0.19	$0.18	$0.16	$0.18	$0.22	$0.24	$0.28	$0.30	$0.23
1911	.26	.18	.16	.15	.15	.13	.14	.16	.18	21	.28	.29	.19
1912	.33	.32	.21	.19	.18	.17	.18	.19	.22	.24	.26	.25	.23
1913	.24	.21	.18	.18	.18	.18	.17	.21	.24	.26	.33	.33	.23
1914	.32	.27	.22	.18	.19	.18	.19	.21	.22	.23	.28	.32	.23
1915	.34	.25	.18	.19	.18	.17	.17	.19	.23	.26	.29	.29	.23
1916	.29	.24	.19	.20	.21	.21	.22	.24	.28	.31	.36	.39	.26
1917	.41	.42	.28	.32	.34	.31	.32	.34	.37	.37	.43	.48	.37
1918	.58	.51	.35	.33	.32	.32	.37	.38	.43	.50	.61	.62	.44
1919	.58	.38	.39	.40	.43	.40	.42	.42	.46	.57	.63	.73	.48
1920	.65	.52	.45	.41	.41	.39	.42	.47	.53	.57	.68	.71	.52
Av. 1914–1920	.45	.37	.29	.29	.30	.28	.30	.32	.36	.40	.47	.51	.36
1921	.60	.35	.27	.24	.22	.24	.283	.0	.33	.44	.52	.51	.36
1922	.37	.32	.23	.23	.24	.22	.21	.22	.29	.35	.48	.48	.30
1923	.38	.33	.26	.25	.24	.23	.23	.26	.31	.35	.48	.42	.31

FRESH EXTRAS AT SAN FRANCISCO.

1910	$0.34	$0.26	$0.21	$0.24	$0.25	$0.27	$0.30	$0.35	$0.41	$0.47	$0.54	$0.40	$0.34
1911	.31	.25	.19	.19	.21	.21	.26	.31	.38	.46	.51	.40	.31
1912	.33	.24	.20	.21	.21	.22	.25	.29	.38	.44	.48	.34	.30
1913	.28	.21	.18	.19	.20	.24	.27	.32	.39	.50	.57	.47	.32
1914	.40	.27	.20	.22	.23	.24	.28	.33	.40	.47	.48	.46	.33
1915	.31	.23	.21	.22	.23	.23	.25	.31	.36	.40	.51	.41	.31
1916	.33	.26	.20	.22	.23	.25	.27	.33	.39	.47	.50	.40	.32
1917	.38	.32	.26	.31	.34	.31	.35	.43	.46	.53	.57	.52	.40
1918	.63	.46	.39	.40	.40	.43	.48	.53	.62	.75	.82	.80	.56
1919	.61	.41	.42	.48	.52	.52	.54	.59	.69	.78	.87	.78	.60
1920	.64	.49	.44	.44	.46	.47	.57	.60	.72	.83	.87	.78	.61
Av. 1914–1920	.47	.35	.30	.33	.34	.35	.39	.45	.52	.61	.66	.59	.45
1921	.60	.37	.33	.29	.26	.29	.41	.45	.52	.65	.68	.57	.45
1922	.39	.30	.26	.28	.27	.28	.29	.33	.48	.64	.61	.52	.39
1923	.38	.28	.24	.27	.27	.28	.27	.34	.38	.44	.43	.43	.38

Division of Statistical and Historical Research.

SILK.

TABLE 605.—*Silk, Japanese, filatures, Kansai No. 1: Average wholesale price per pound, New York, 1890–1923.*

Calendar year.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1890	$5.117	$5.456	$5.336	$5.336	$5.335	$5.335	$5.141	$5.141	$5.141	$5.092	(1)	(1)	.....
1891	(1)	(1)	3.941	4.135	4.135	4.135	4.026	4.026	4.026	3.807	$3.856	$4.026	.....
1892	4.026	4.026	4.026	4.026	4.122	4.026	4.026	4.074	4.080	5.093	4.996	4.802	$4.327
1893	4.802	4.971	5.153	5.274	5.153	4.971	4.668	4.244	4.001	3.880	3.759	3.613	4.541
1894	3.580	3.516	3.419	3.322	3.298	3.201	3.250	3.298	3.468	3.371	3.322	3.298	3.363
1895	3.346	3.540	3.371	(1)	(1)	3.516	4.001	3.759	4.123	4.123	4.123	3.953	.....
1896	3.856	3.686	3.589	3.444	3.116	(1)	3.177	3.152	3.250	3.419	3.516	3.274	.....
1897	3.250	3.259	3.274	3.346	3.456	3.346	3.444	3.456	3.613	3.759	3.759	3.613	3.464
1898	3.686	3.759	3.710	3.662	3.565	3.710	3.565	3.613	3.710	3.565	3.565	3.541	3.638
1899	3.601	3.928	4.074	4.365	4.559	4.462	4.559	4.341	4.486	4.389	4.680	5.456	4.408
1900	5.311	5.092	4.808	4.802	4.365	3.807	3.953	3.832	3.928	3.177	3.468	3.395	4.169
1901	3.334	3.298	3.371	3.346	3.322	3.395	3.565	3.613	3.832	3.759	3.686	3.638	3.513
1902	3.638	3.734	3.832	3.759	3.734	3.759	3.783	3.783	3.807	4.038	4.001	4.001	3.822
1903	4.207	4.256	4.268	4.171	4.122	4.207	4.171	4.147	4.159	4.171	4.001	3.735	4.135
1904	3.783	3.807	3.613	3.540	3.565	3.541	3.492	3.638	3.650	3.001	3.734	3.734	3.642
1905	4.074	3.928	3.832	3.771	3.771	3.856	4.026	4.098	4.268	4.268	4.098	3.904	3.991
1906	3.977	3.953	4.052	4.171	4.147	4.050	4.026	4.050	4.195	4.195	4.341	4.802	4.168
1907	5.117	5.020	5.214	5.480	5.602	5.286	5.044	4.753	5.311	4.874	4.777	4.244	5.009
1908	4.050	4.050	3.759	3.565	3.468	3.565	4.001	4.001	4.050	4.050	4.026	4.098	3.890
1909	4.098	4.195	4.244	4.195	3.807	3.759	3.856	3.662	3.662	3.662	3.516	3.419	3.840
1910	3.516	3.468	3.322	3.419	3.516	3.419	3.419	3.371	3.419	3.613	3.856	3.953	3.524
1911	3.795	3.795	3.650	3.480	3.407	3.407	3.359	3.310	3.419	3.274	3.274	(1)	.....
1912	3.322	3.346	3.444	3.444	3.444	3.395	3.322	3.444	3.589	3.686	3.492	3.414	3.445
1913	3.468	3.492	3.395	3.492	3.444	3.613	3.613	4.050	4.026	3.759	3.686	3.638	3.640
Av. 1909–1913	3.640	3.659	3.613	3.606	3.524	3.519	3.514	3.567	3.623	3.599	3.565	3.606	3.612
1914	3.832	3.977	4.026	3.977	4.074	4.074	3.977	3.953	3.468	3.201	2.910	2.862	3.694
1915	2.910	3.177	3.031	3.201	3.201	3.201	3.007	3.080	3.322	3.322	3.783	4.583	3.318
1916	4.462	4.996	5.432	4.777	4.462	4.363	4.527	4.874	4.704	4.996	5.432	5.384	4.867
1917	5.335	5.141	4.947	5.384	5.287	5.675	5.675	6.645	6.063	5.432	5.432	5.093	5.509
1918	5.384	5.481	5.481	5.772	6.160	6.160	6.888	6.790	6.887	6.742	6.984	6.548	6.273
1919	6.675	6.772	6.063	6.645	7.663	9.609	9.749	8.827	9.500	11.058	12.368	13.629	8.830
1920	16.975	14.055	12.998	9.506	6.305	6.451	4.608	4.705	6.321	5.978	5.782	5.635	8.277
Av. 1914–1920	6.368	6.087	5.997	5.609	5.307	5.647	5.490	5.593	5.753	5.818	6.099	6.248	5.831
1921	5.782	5.733	5.880	5.782	5.635	5.733	5.733	5.390	5.978	6.027	7.154	7.595	6.035
1922	6.762	6.566	6.027	6.517	7.203	7.301	7.056	7.105	7.644	8.330	7.889	8.232	7.219
1923	8.183	8.771	8.624	9.310	8.429	7.693	7.154	7.350	9.800	7.840	7.840	7.742	8.228

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

[1] No quotations.

TABLE 606.—*Raw silk: Production in undermentioned countries, 1909–1922.*

Country.	Average 1909–1913.	1916	1917	1918	1919	1920	1921	1922
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
WESTERN EUROPE.								
Italy	8,524	7,903	6,217	5,942	4,079	7,330	7,154	8,234
France	992	485	452	529	408	551	430	437
Spain	182	198	154	165	154	177	132	170
Total	9,698	8,646	6,823	6,636	4,641	8,058	7,716	8,841
Eastern Europe, Levant, and Central Asia [1]	6,611	2,623	2,624	2,634	2,039	1,653	1,213	1,543
FAR EAST.								
China:								
Exports from Shanghai	12,576	10,340	10,097	10,251	8,596	7,860	8,840	10,648
Exports from Canton	5,146	5,346	5,170	4,134	5,071	4,167	5,688	7,000
Japan: Exports from Yokohama	21,808	20,431	34,050	31,416	32,188	24,008	40,984	41,546
British India: Exports from Bengal and Cashmere	428	254	232	242	220	176	187	165
Indo-China: Exports from Saigon, Haiphong, etc	[2] 33	7	11	11	11	33	44	55
Total	40,080	45,378	49,560	46,054	46,086	36,244	55,743	59,414
Grand total	56,389	56,647	59,007	55,314	52,766	45,955	64,672	69,798

Division of Statistical and Historical Research. Compiled from Statistique de la Production de la Soie, Silk Merchants Union, Lyon, France.

[1] Includes Hungary, Czechoslovakia, Yogoslavia, Rumania, Bulgaria, Greece, Salonika, Adrianople, Crete, the Caucasus, Anatolia, Turkestan, Central Asia, Syria, Cyprus, and Persia.

[2] For years 1911–1913.

TABLE 607.—*Forest areas, United States.*

Region.	Original forest areas.		Present forest areas.							
			Total.[1]		Saw timber.		Cordwood.	Not restocking.	Conifers.	Hardwoods.
					Virgin.	Second growth.				
	1,000 acres.	*Per cent.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
New England	38,908	4.7	25,708	5.5	2,000	9,261	8,872	5,575	16,208	9,500
Middle Atlantic	69,610	8.5	28,678	6.1	1,896	9,559	10,793	6,430	11,550	17,128
Lake	103,680	12.6	57,100	12.2	10,100	13,930	12,570	20,500	28,150	28,950
Central	170,560	20.7	60,182	12.8	7,600	24,301	26,011	2,270	3,220	56,962
South Atlantic and East Gulf	170,240	20.7	99,000	21.1	18,300	27,900	32,080	20,720	71,700	27,300
Lower Mississippi Valley	128,400	15.6	78,865	16.8	20,835	20,200	24,075	13,755	42,664	36,201
Rocky Mountain	63,720	7.8	60,842	12.9	37,746	3,313	14,533	5,250	60,842	.....
Pacific[2]	77,120	9.4	59,100	12.6	39,683	5,292	7,425	6,700	59,100	.....
United States	822,238	100.0	469,475	100.0	138,160	113,756	136,359	81,200	293,434	176,041

Forest Service. Compiled from report on Senate Resolution 311 and "Forest Resources of the World."

[1] The areas given in this table refer only to land capable of producing saw timber or pulp timber in commercial quantities, and do not include the open woodland and chaparral of the Southwest.

[2] Alaskan areas are not tabulated because so little is known of the interior forests that the best estimates are only approximations. The figures now commonly used indicate 65,000,000 acres of coniferous forest and 5,000,000 acres of hardwoods. The bulk of the merchantable timber is confined to a belt along the coast of the southeastern part of the Territory, containing approximately 5,000,000 acres of forest.

TABLE 608.—*National forests, State forests and parks, and municipal forests, areas 1923.*[1]

State.	Aggregate.	National forests (net area).[2]	State forest lands.				Municipal and county forest land.
			Total.[1]	State forests.	State parks.	Other State forest land.	
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Alabama	291,430	97,198	175,000	.....	.....	175,000	19,232
Arizona	11,235,434	11,204,304	31,130	.....	.....	31,130	.....
Arkansas	957,247	957,247	.....	.....	.....	.....	.....
California	19,211,472	19,147,587	56,245	.....	17,400	44,845	7,640
Colorado	13,426,668	13,277,038	120,000	.....	.....	120,000	29,630
Connecticut	28,472	.....	14,150	6,529	5,121	2,500	14,322
District of Columbia	1,632	.....	.....	.....	.....	.....	1,632
Florida	339,858	337,938	1,920	.....	1,920	.....	.....
Georgia	153,457	153,457	.....	.....	.....	.....	.....
Idaho	19,984,185	19,056,871	927,154	685,000	14,814	227,340	160
Illinois	25,040	.....	40	.....	40	.....	25,000
Indiana	4,351	.....	4,351	2,851	1,500	.....	.....
Iowa	4,500	.....	4,500	.....	4,500	.....	.....
Kansas	455	.....	255	.....	255	.....	200
Maine	418,059	32,256	385,000	.....	.....	385,000	803

[1] Few if any of the public forests are entirely covered with saw timber. They contain lakes, rocky mountain tops and other barrens, open grazing land and natural meadows, unproductive burns, brushlands, and scrub timber useful chiefly for fuel, posts, and similar small material. These are usually inseparable parts of the administrative units.

[2] National forest areas are corrected to June 30, 1923. These figures do not of course include the forested land within Indian reservations, national parks, national monuments, military reservations, and the unreserved public domain. The State and municipal forests are as of July 1, 1922.

TABLE 608.—*National forests, State forests and parks, and municipal forests, areas 1923*—Continued.

State.	Aggregate.	National forest (not area).	State forest lands.				Municipal and county forest land.
			Total.	State forests.	State parks.	Other State forest land.	
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Maryland	13,235		5,835	3,835		2,000	7,400
Massachusetts	129,513		83,353	50,353	13,000	20,000	46,160
Michigan	773,117	124,082	648,000	338,000	10,000	300,000	1,035
Minnesota	1,784,069	1,047,941	736,068	381,000	5,068	350,000	60
Missouri	50,000		50,000			50,000	
Montana	16,447,715	15,881,715	566,000	460,000		106,000	
Nebraska	205,986	205,944					42
Nevada	4,976,513	4,976,513					
New Hampshire	431,951	404,945	18,950	18,000		950	8,056
New Jersey	53,104		17,064	16,504	560		36,100
New Mexico	8,705,984	8,535,984	170,000			170,000	
New York	2,215,853		2,046,853	1,992,516	33,962	20,375	169,000
North Carolina	390,279	359,690	3,725	300	1,225	2,200	26,864
North Dakota	250		250		250		
Ohio	54,948		43,471	20,371	200	22,900	11,477
Oklahoma	61,480	61,480					
Oregon	13,217,047	13,137,447	74,800		800	74,000	4,800
Pennsylvania	1,193,134		1,174,401	1,126,237	1,410	46,754	18,733
Rhode Island	104						104
South Carolina	18,558	18,558					
South Dakota	1,145,587	1,057,747	87,840	61,440		26,400	
Tennessee	266,210	241,210	25,000			25,000	
Texas	310						310
Utah	7,455,110	7,453,400					1,710
Vermont	43,945		42,100	29,300	800	12,000	1,845
Virginia	443,301	431,513	2,088	588		1,500	9,700
Washington	10,776,433	9,900,869	863,600	58,000	5,600	800,000	11,964
West Virginia	132,108	132,108					
Wisconsin	300,055		300,055	300,000	55		
Wyoming	8,417,773	8,417,773					
Alaska	20,571,549	20,571,549					
Porto Rico	12,443	12,443					
Total	166,309,984	157,236,807	8,679,198	5,550,824	112,480	3,015,894	453,979

Forest Service.

TABLE 609.—*Forest areas of the world, by principal divisions and countries.*

Division and country.	Forest area.	Division and country.	Forest area.
	Acres.		*Acres.*
Asiatic Russia	1,136,153,150	Belgian Congo	180,000,000
India	260,139,520	Rhodesia	170,304,000
China	190,000,000	Nigeria	139,776,000
Dutch East Indies	154,339,000	French Congo	80,000,000
Japan	90,484,640	Cameroon	35,000,000
Other Asia	264,898,280	Ivory Coast	30,000,000
Asia	2,096,014,590	Other Africa	162,378,000
Brazil	1,000,000,000	Africa	797,458,000
Argentina	264,000,000	Russia	440,000,000
Peru	224,000,000	Sweden	55,550,000
Colombia	150,000,000	Finland	49,410,000
Bolivia	128,000,000	Germany	30,905,840
Venezuela	103,840,000	France	25,508,420
Other South America	222,850,000	Other Europe	172,744,200
South America	2,092,690,000	Europe	774,118,460
Canada	596,746,000	New Guinea	160,020,000
United States [1]	550,000,000	Australian Commonwealth	90,291,500
Alaska	95,000,000	New Zealand	17,073,920
Mexico	74,100,000	Other Oceania	16,073,300
Other North America	128,111,000	Australia and Oceania	283,458,720
North America	1,443,957,000	Total world divisions	7,487,696,770

Forest Service. Compiled from "Forest Resources of the World."

[1] Includes approximately 80,000,000 acres incapable of producing saw timber on a commercial scale. The figures for many other countries also include areas of low grade forest land.

TABLE 610.—*Woodland and timberland on farms, area by States and lumber regions, 1919.*

States and regions.	Total.[1]	Woodland.	Timberland.[2]
	Acres.	*Acres.*	*Acres.*
Alabama	8,301,177	5,799,880	2,501,297
Arizona	523,648	409,136	54,512
Arkansas	7,390,028	5,036,550	2,359,478
California	4,252,287	3,680,248	572,039
Colorado	1,415,420	1,272,491	142,929
Connecticut	683,719	611,089	72,630
Delaware	222,658	176,471	46,187
District of Columbia	828	779	49
Florida	2,780,790	2,231,932	548,858
Georgia	10,491,848	7,708,508	2,698,340
Idaho	820,876	647,027	173,849
Illinois	3,102,579	2,644,115	458,464
Indiana	3,141,042	2,331,218	809,824
Iowa	2,295,274	2,142,832	152,442
Kansas	1,313,093	1,271,729	41,364
Kentucky	6,018,280	4,196,708	1,821,572
Louisiana	3,614,040	2,930,557	683,483
Maine	2,447,597	1,803,696	643,901
Maryland	1,327,221	1,021,463	305,758
Massachusetts	1,030,386	782,043	248,343
Michigan	3,217,000	2,774,353	442,647
Minnesota	4,482,656	3,953,264	529,392
Mississippi	7,014,898	5,417,649	1,597,249
Missouri	8,553,857	6,414,327	2,139,530
Montana	1,646,462	1,496,980	149,482
Nebraska	900,933	870,396	30,537
Nevada	28,637	26,622	2,015
New Hampshire	1,299,838	872,723	427,115
New Jersey	454,768	380,015	74,753
New Mexico	1,817,460	1,750,297	67,163
New York	4,160,567	3,132,799	1,027,768
North Carolina	10,299,547	8,192,526	2,107,021
North Dakota	679,836	671,077	8,759
Ohio	3,198,929	2,338,085	860,844
Oklahoma	4,206,171	3,976,699	229,472
Oregon	2,309,596	1,550,132	759,464
Pennsylvania	4,043,902	2,847,766	1,196,136
Rhode Island	130,462	100,243	30,219
South Carolina	5,302,575	4,018,413	1,284,162
South Dakota	536,183	521,839	14,344
Tennessee	7,080,169	4,866,948	2,213,221
Texas	14,532,913	13,466,924	1,065,989
Utah	212,762	204,354	8,408
Vermont	1,428,309	954,592	473,717
Virginia	7,907,352	5,757,322	2,150,030
Washington	1,813,061	1,475,510	337,551
West Virginia	3,469,444	2,334,658	1,134,786
Wisconsin	5,401,910	4,858,406	543,504
Wyoming	421,806	386,876	34,930
United States	167,730,794	132,460,267	35,270,527
LUMBER REGIONS.			
Northeastern	17,230,255	12,683,679	4,546,576
Lake	13,101,566	11,586,023	1,515,543
Central	34,564,300	25,126,059	9,438,241
North Carolina pine	23,509,474	17,968,261	5,541,213
Southern	58,337,865	46,658,099	11,679,166
North Pacific	4,122,657	3,025,642	1,097,015
South Pacific	4,280,924	3,706,870	574,054
North Rockies	2,467,338	2,144,007	323,331
South Rockies	4,391,096	4,083,154	307,942
Prairie	5,725,319	5,477,873	247,446

Forest Service. Compiled from reports of Bureau of the Census.

[1] The total embraces all land on farms covered with natural or planted forest trees, which produce or later may produce firewood or other forest products.

[2] Timberland is that part of the total forested area on farms which is covered with trees mostly of sawlog sizes.

TABLE 611.—*Total stand and saw timber of the United States and Alaska, 1920.*

Region.	Total stand.				Saw timber.		
	Total.	Per cent.	On saw timber areas.	On cordwood areas.	Total.	Softwoods.	Hardwoods.
	Million cubic feet.		*Million cubic feet.*	*Million cubic feet.*	*Million board feet.*	*Million board feet.*	*Million board feet.*
New England	20,850	3	15,492	5,358	49,799	38,480	11,319
Middle Atlantic	24,897	3	17,126	7,771	44,857	15,353	29,504
Lake	50,584	7	41,534	9,050	110,110	40,760	69,350
Central	85,118	11	61,319	23,799	144,470	11,318	133,152
South Atlantic and East Gulf	95,158	13	73,060	22,098	220,577	136,827	83,750
Lower Mississippi Valley	118,364	16	95,252	23,112	280,908	148,308	132,600
Rocky Mountain	61,893	8	53,755	8,138	223,141	223,141	[1]
Pacific coast	287,724	39	274,874	12,850	1,141,031	1,141,031	[1]
United States	745,588	100	632,412	113,176	2,214,893	1,755,218	459,675
Alaska	[2]		[2]	[2]	[3] 102,000	[3] 100,000	[3] 2,000
United States and Alaska	745,588	100	632,412	113,176	2,316,893	1,855,218	461,675

Forest Service. Compiled from "Forest Resources of the World" and other sources.

[1] Relatively small quantities of hardwoods. No estimates available.
[2] No estimate.
[3] Figures only approximations, due to the lack of knowledge, particularly of the forests of interior Alaska.

TABLE 612.—*Saw timber stand in the United States by species and regions, 1920.*

Species.	Total.	New England.	Middle Atlantic.	Lake.	Central.	South Atlantic and East Gulf.	Lower Mississippi.
	Million board feet.	*Million board feet.*	*Million board feet.*	*Million board feet.*	*Million board feet.*	*Million board feet.*	*Million board feet.*
Oak	157,372	1,510	5,500	8,301	64,712	27,889	49,460
Birch, beech, and maple	90,784	8,143	16,897	36,076	20,505	4,522	4,641
Red gum	44,222		176		3,728	13,400	26,918
Chestnut	19,319	960	3,754		7,989	6,616	
Hickory	15,784	40	412	187	6,791	3,183	5,171
Cottonwood and aspen	10,824	374	13	999	2,131	1,340	5,967
Ash	9,988	215	513	1,893	2,929	1,256	3,182
Yellow poplar	9,611		126	7	5,193	4,020	265
Others	101,771	77	2,113	21,887	19,174	21,524	36,996
Eastern hardwoods	459,675	11,319	29,504	69,350	133,152	83,750	132,600
Southern yellow pine	257,091				365	121,442	135,884
Hemlock	30,896	1,804	5,686	18,301	5,910	1,845	
Spruce and fir	31,572	23,971	2,948	3,772		881	
Cypress	22,921					11,208	11,713
White and Norway pine	23,457	9,816	4,037	8,000	515	1,069	
Others	24,509	2,889	[1] 3,332	10,687	[1] 6,528	362	711
Eastern softwoods	391,046	38,480	15,353	40,760	11,318	136,827	148,308
		Rocky Mountain.	Pacific coast.				
Douglas fir	595,505	36,934	558,571				
Western yellow pine and Jeffrey pine	249,578	66,125	183,453				
Western hemlock	95,092	1,092	94,000				
True firs	91,349	8,870	82,479				
Redwood	72,208		72,208				
Western white pine and sugar pine	57,071	18,586	38,485				
Western red cedar	53,348	4,348	49,000				
Lodgepole pine	43,919	39,353	4,566				
Spruce	39,822	26,467	13,355				
Others	66,280	21,366	44,914				
Western softwoods	1,364,172	223,141	1,141,031				

Forest service.

[1] Includes small amounts of various species of yellow pine.

TABLE 613.—*National forests: Estimated quantities of standing timber June 30, 1922.*

District and forest.	Saw timber.	Cordwood.
DISTRICT 1.[1]	*M feet b. m.*	*Cords.*
Absaroka	1,769,000	
Beartooth	592,525	
Beaverhead	4,183,000	
Bitterroot	4,887,000	
Blackfeet	2,797,200	
Cabinet	960,000	
Clearwater	6,558,684	
Coeur d'Alene	4,131,585	
Custer	458,136	
Deerlodge	1,119,500	
Flathead	4,777,685	
Gallatin	1,272,476	
Helena	613,062	
Jefferson	1,711,696	
Kaniksu	1,667,826	
Kootenai	3,515,000	
Lewis & Clark	304,600	
Lolo	1,810,000	
Madison	873,000	
Missoula	3,550,000	
Nezperce	6,258,918	
Pend Oreille	1,221,200	
St. Joe	4,184,000	
Selway	4,514,304	
Total, district 1	63,730,397	
DISTRICT 2.[2]		
Arapaho	2,341,981	52,510
Battlement	750,000	100,000
Bighorn	1,500,569	2,461,000
Black Hills	1,510,090	718,000
Cochetopa	1,632,346	60,000
Colorado	1,196,300	357,000
Gunnison	729,700	397,500
Harney	1,374,420	458,000
Hayden	789,275	297,800
Holy Cross	1,533,030	1,533,000
Leadville	326,077	131,710
Medicine Bow	3,132,866	1,855,000
Michigan	4,295	18,580
Minnesota	295,000	505,000
Montezuma	1,755,250	1,285,500
Pike	1,100,000	965,000
Rio Grande	1,551,905	1,258,852
Routt	1,662,600	882,000
San Isabel	811,227	34,924
San Juan	3,013,322	301,806
Shoshone	1,622,551	81,125
Superior	229,500	1,447,000
Uncompahgre	594,700	1,263,000
Washakie	1,455,600	675,000
White River	1,797,595	1,797,595
Total, district 2	32,710,109	18,936,902
DISTRICT 3.[3]		
Apache	2,419,269	327,569
Carson	1,152,125	984,782
Coconino	3,893,231	1,400,000
Coronado	290,000	3,748,000
	376,000	449,000
Crook		
Datil	3,330,000	4,850,000
Gila	2,150,000	875,000
Lincoln	598,702	1,898,000

District and forest.	Saw timber.	Cordwood.
DISTRICT 3—continued.	*M feet b. m.*	*Cords.*
Manzano	346,000	1,200,000
Prescott	180,000	2,105,000
Santa Fe	2,672,037	1,486,638
Sitgreaves	4,257,775	922,000
Tonto	593,368	1,086,608
Tusayan	770,795	1,045,556
Total, district 3	23,119,302	22,378,153
DISTRICT 4.[4]		
Ashley	1,194,130	396,300
Boise	3,396,980	
Bridger	585,791	428,183
Cache	156,495	574,758
Caribou	169,800	560,000
Challis	1,690,731	
Dixie-Sevier	425,649	1,730,764
Fillmore	240,428	986,362
Fishlake	102,115	925,420
Humboldt	12,131	341,451
Idaho	8,379,781	3,916,748
Kaibab	1,718,919	532,800
La Sal	104,555	804,998
Lemhi	598,875	315,085
Manti	279,518	1,276,102
Minidoka	50,753	545,000
Nevada	22,250	1,610,000
Payette	5,304,748	56,500
Powell	1,559,600	985,080
Salmon	3,363,009	
Sawtooth	696,000	61,500
Targhee	1,726,523	256,320
Teton	2,699,500	400,000
Toiyabe		2,811,000
Uinta	1,048,210	
Wasatch	474,792	259,670
Weiser	1,525,910	
Wyoming	690,863	589,728
Total, district 4	38,218,056	20,364,369
DISTRICT 5.[5]		
Angeles	1,204,238	1,437,749
California	4,040,600	200,000
Cleveland	227,300	210,250
Eldorado	4,841,862	668,250
Inyo	681,000	3,166,000
Klamath	12,485,162	3,280,000
Lassen	6,884,350	84,040
Modoc	2,799,256	747,000
Mono	1,080,834	1,209,205
Plumas	10,145,689	200,000
Santa Barbara	596,000	1,785,000
Sequoia	7,454,724	547,525
Shasta	4,000,000	250,000
Sierra	13,166,000	2,375,000
Stanislaus	9,219,798	4,204,000
Tahoe	6,709,000	187,000
Trinity	10,980,000	5,863,120
Total, district 5	96,515,813	26,414,739

[1] Montana, northeastern Washington, northern Idaho, and northwestern South Dakota.
[2] Colorado, Wyoming (except western Wyoming), South Dakota, Nebraska, northern Michigan, and northern Minnesota.
[3] Arizona (except north of Grand Canyon) and New Mexico.
[4] Utah, southern Idaho, western Wyoming, eastern and central Nevada, and northwestern Arizona.
[5] California and southwestern Nevada.

TABLE 613.—*National forests: Estimated quantities of standing timber June 30, 1922*—Continued.

District and forest.	Saw timber.	Cordwood.
DISTRICT 6.[6]		
	M feet b. m.	*Cords.*
Cascade	23, 589, 613	
Chelan	4, 548, 126	
Columbia	11, 011, 571	
Colville	2, 681, 508	
Crater	8, 860, 128	
Deschutes	7, 317, 000	
Fremont	6, 597, 280	
Malheur	6, 560, 000	
Ochoco	7, 675, 000	
Olympic	30, 000, 000	
Oregon	14, 105, 653	
Rainier	7, 232, 290	
Santiam	12, 023, 499	
Siskiyou	11, 980, 343	
Siuslaw	5, 913, 080	
Snoqualmie	8, 936, 786	
Umatilla	4, 528, 795	
Umpqua	23, 594, 201	
Wallowa	1, 800, 130	
Washington	10, 437, 269	
Wenatchee	3, 608, 500	
Whitman	5, 864, 758	
Total, district 6	218, 865, 530	
DISTRICT 7.[7]		
Alabama	94, 489	30, 000
Arkansas	1, 281, 380	
Cherokee	346, 709	407, 423
Florida	182, 250	1, 287, 785
Luquillo		
Monongahela	22, 015	10, 700
Nantahala	282, 381	617, 600
Natural Bridge	152, 314	251, 768
Ozark	416, 750	
Pisgah	289, 030	2, 280, 000
Shenandoah	140, 172	226, 671
Unaka	152, 732	515, 024
White Mountain	923, 764	
Wichita		
Total, district 7	4, 283, 986	5, 626, 971
DISTRICT 8.[8]		
Chugach	6, 589, 950	
Tongass	73, 538, 000	
Total, district 8	80, 127, 950	
Total, all districts	557, 571, 143	93, 721, 134

SUMMARY BY STATES.

State.	Saw timber.	Cordwood.	State.	Saw timber.	Cordwood.
	M feet b. m.	*Cords.*		*M feet b. m.*	*Cords.*
Alabama	94, 489	30, 000	New Hampshire	856, 039	
Alaska	80, 127, 950		New Mexico	10, 262, 864	11, 484, 420
Arizona	14, 575, 357	11, 426, 533	North Carolina	454, 917	2, 662, 531
Arkansas	1, 689, 130		Oklahoma		
California	99, 591, 705	25, 430, 728	Oregon	136, 096, 751	
Colorado	21, 177, 413	10, 659, 397	Porto Rico		
Florida	182, 250	1, 287, 785	South Carolina	24, 064	52, 636
Georgia	259, 695	390, 730	South Dakota	2, 641, 931	896, 000
Idaho	54, 223, 550	6, 017, 207	Tennessee	295, 008	588, 816
Maine	67, 725		Utah	5, 364, 881	6, 669, 716
Michigan	4, 295	18, 580	Virginia	309, 746	570, 004
Minnesota	524, 500	1, 952, 000	Washington	80, 461, 018	
Montana	35, 189, 369		West Virginia	41, 923	44, 469
Nebraska			Wyoming	12, 876, 222	6, 971, 836
Nevada	169, 351	6, 567, 746	Total	557, 571, 143	93, 721, 134

Forest Service.

[6] Washington (except northeastern Washington) and Oregon.

[7] Arkansas, Alabama, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, Maine, Porto Rico.

[8] Alaska.

NOTE.—In round numbers the total estimated stand, including cordwood converted to board feet, is 590,000,000 M feet b. m.

TABLE 614.—*National forests: Estimated quantities of saw timber, by species, June 30, 1922.*

Species.	Thousands of board feet.							
	District 1.	District 2.	District 3.	District 4.	District 5.	District 6.	District 8.	Total.
Douglas fir	12,554,153	1,549,301	2,195,112	8,830,525	16,476,048	100,960,806		142,565,945
Western yellow pine	5,450,232	5,081,374	19,058,288	11,286,392	31,192,012	33,122,435		105,190,733
Western hemlock	51,661					29,693,309	52,633,428	82,378,398
Lodgepole pine	17,604,352	10,109,010		8,507,930	2,634,906	4,737,354		43,593,552
Alpine species	1,808,340	1,789,136	129,301	2,320,992	75,211	25,345,312		31,468,292
Cedar	2,738,161	5,275			4,404,971	8,573,908	8,104,406	23,826,721
Engelmann spruce	5,448,782	12,363,529	754,297	3,796,926		1,366,774		23,760,308
White fir	[1]3,246,189	48,064	739,027	132,622	14,461,408	5,129,352		23,756,657
Sitka spruce						1,555,005	18,510,753	20,065,758
Sugar pine					11,655,089	1,729,437		13,384,526
Red fir					12,934,782			12,934,782
Larch	6,852,121			499,639		4,312,438		11,664,198
White pine	6,045,523	40,200			151,681	1,247,365		7,484,769
Jeffrey pine					1,925,605			1,925,605
Hardwoods	2,600	1,225,305		505,949		33,376	122,703	1,889,933
Black and white spruce		117,020					756,660	873,680
Redwood					258,147	78,150		336,297
Blue spruce		96,000		104,400				200,400
Jack pine		182,300						182,300
Norway pine		76,000						76,000
Juniper	3,500	8,000		43,330				54,830
Miscellaneous	[5]1,924,733	[5]19,595	[4]243,277	[5]2,139,351	[6]345,968	950,509		5,673,473
Total, all species, district 7								4,283,986
Total	63,730,397	32,710,109	23,119,302	38,218,050	96,515,813	218,865,530	80,127,950	557,571,143

DISTRICT [7]

Species.	M feet b. m.	Species.	M feet b. m.	Species.	M feet b.m.
Yellow pine [8]	1,228,368	Gum	82,031	Spanish Oak	2,660
Spruce and fir	508,717	White pine	67,901	Walnut	976
White oak	482,336	Beech	62,929	Locust	909
Chestnut	317,146	Hickory	51,911	Cherry	875
Longleaf pine	179,456	Mixed oak	33,446	Cypress	80
Red oak	168,035	Basswood	17,934	Pond pine	75
Hemlock	142,927	Aspen	14,340	Juniper	10
Chestnut oak	137,489	Ash	10,105	Miscellaneous	76,096
Maple	127,822	Scarlet oak	8,882	Tie timber	123,599
Yellow birch	101,819	Buckeye	6,017		
Black oak	108,351	Birch	4,742	Total	4,283,986
Yellow poplar	105,234	Cucumber	2,958		
Paper birch	95,971	Slash pine	2,620		

Forest Service.

[1] Includes some hemlock.
[2] Includes balsam, white fir, hemlock, and others.
[3] Includes pifion pine, tamarack, hemlock.
[4] Includes Mexican white pine, cork bark fir, foxtail pine, Chihuahua pine, cypress, etc.
[5] Includes balsam, dead, and other species not specified.
[6] Includes Coulter pine, big cone spruce, and miscellaneous.
[7] Presented separately due to difference in species.
[8] Includes shortleaf, Virginia scrub, table-mountain, and pitch pine.

TABLE 615.—*Forest planting.*

AREAS PLANTED PRIOR TO JANUARY, 1923.

Class of owner.	Total.	State group.									Per cent planted by each class of owner.
		New England.[1]	Middle Atlantic.[2]	Central hardwoods.[3]	Lake.[4]	South Atlantic.[5]	Gulf Coast.[6]	Plains and prairies.[7]	Rocky Mountain.[8]	Pacific Coast.[9]	
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	
United States	179,789	18	-------	773	10,972	1,112	18	20,132	97,562	49,202	12.4
States	86,104	15,000	53,626	455	16,810	23	30	-------	100	60	6.0
Municipalities	33,715	10,700	20,575	1,060	-------	1,000	300	-------	80	-------	2.3
Farmers and estate owners	1,085,687	32,400	32,775	24,169	172,850	5,043	2,825	760,900	14,725	40,000	75.0
Large timberland owners and operators, and wood-using industries	20,275	12,600	-------	5	2,470	360	4,800	50	-------	50	1.4
Railroads	15,007	62	9,950	918	9	58	1,300	1,510	-------	1,200	1.0
Pulp companies	8,600	1,650	5,000	500	-------	300	-------	-------	-------	1,150	.6
Mining companies	3,375	-------	2,000	1,245	125	5	-------	-------	-------	-------	.2
Others	15,478	1,800	3,100	-------	100	458	-------	20	-------	10,000	1.1
All classes	1,448,030	74,230	127,026	29,125	203,336	8,299	9,273	782,612	112,467	101,662	100.0
Per cent planted by each State group	100.0	5.1	8.8	2.0	14.0	.6	.6	54.1	7.8	7.0	-------

AREAS PLANTED DURING CALENDAR YEAR 1922.

United States	7,073	-------	-------	-------	2,379	22	-------	948	2,400	1,324	20.0
States	7,052	1,925	3,410	40	1,650	2	-------	-------	25	-------	20.0
Municipalities	1,375	650	600	25	-------	100	-------	-------	-------	-------	3.9
Farmers and estate owners	13,791	2,085	4,880	435	700	69	310	3,500	342	1,500	39.0
Large timberland owners and operators, and wood-using industries	1,678	1,150	-------	-------	-------	25	500	3	-------	-------	4.7
Railroads	1,010	-------	1,000	4	-------	-------	-------	6	-------	-------	2.9
Pulp companies	1,241	241	1,000	-------	-------	-------	-------	-------	-------	-------	3.5
Mining companies	426	-------	400	26	-------	-------	-------	-------	-------	-------	1.2
Others	1,700	200	1,500	-------	-------	-------	-------	-------	-------	-------	4.8
All classes	35,346	6,251	12,760	530	4,729	218	810	4,457	2,767	2,824	100.0
Per cent planted by each State group	100.0	17.7	36.1	1.5	13.4	.6	2.3	12.6	7.8	8.0	-------

Forest Service. Includes relatively small areas sown with forest seeds.

[1] New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
[2] Middle Atlantic: New York, New Jersey, Pennsylvania.
[3] Central hardwoods: Ohio, Indiana, Illinois, Kentucky, Tennessee, Arkansas, Missouri.
[4] Lake: Michigan, Wisconsin, Minnesota.
[5] South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
[6] Gulf Coast: Alabama, Mississippi, Louisiana, Texas.
[7] Plains and prairie: North Dakota, South Dakota, Iowa, Nebraska, Kansas, Oklahoma.
[8] Rocky Mountain: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico.
[9] Pacific Coast: Washington, Oregon, California.

TABLE 616.—*National forest: Construction, improvement, and maintenance of roads and trails.*

State.	Year ending June 30, 1923.		Total prior to June 30, 1923.				Expenditures prior to June 30, 1923.		
	Miles constructed.		Miles constructed.		Miles maintained.				
	Roads.	Trails.	Roads.	Trails.	Roads.	Trails.	Federal funds.	Cooperative funds.	Total funds.
Alabama	10.0		10.0		10.0	19.0	$5,738.74		$5,738.74
Alaska	19.1	40.6	90.2	96.7	133.2	96.7	895,613.19	$171,243.56	1,066,856.75
Arizona	136.7	313.8	465.6	993.8	578.1	506.8	1,305,519.38	660,725.20	1,966,244.58
Arkansas	29.6	62.3	108.5	133.4	66.8	267.3	302,644.32	24,184.93	326,829.25
California	140.5	463.5	402.7	1,211.2	1,540.7	5,029.4	3,478,506.08	978,348.99	4,456,855.07
Colorado	122.5	175.9	597.2	807.1	371.1	1,383.5	2,180,422.56	517,220.17	2,697,642.73
Florida	4.0		42.4		23.7	36.5	85,281.88	63,347.39	148,629.27
Georgia	5.0	34.0	13.5	69.4	10.0	114.6	127,583.32		127,583.32
Idaho	206.7	647.4	958.1	1,946.7	380.6	5,071.0	3,431,191.47	891,895.01	4,323,086.48
Kansas			3.4				2,111.51		2,111.51
Maine	4.3		4.3	30.0	7.1	32.3	10,344.08		10,344.08
Michigan			40.4		27.0		6,318.98	186.95	6,505.93
Minnesota	25.0	.3	70.5	39.0	30.0	18.0	158,371.88	92,189.48	250,561.36
Montana	41.2	380.5	388.8	683.7	512.8	5,315.8	1,893,354.73	354,786.57	2,248,141.30
Nebraska	10.5		24.6		2.0		18,043.86		18,043.86
Nevada	3.0	143.3	299.3	340.8	142.7	82.0	261,411.65	98,163.46	359,575.11
New Hampshire	6.6	22.1	11.1	258.1	31.7	237.3	39,351.68	220.25	39,571.93
New Mexico	59.2	403.8	293.9	870.7	220.3	860.8	1,191,822.38	191,264.71	1,383,087.09
North Carolina	11.0	70.8	61.9	110.9	41.5	347.1	202,727.60	34,056.37	236,783.97
North Dakota			1.0				65.75		65.75
Oklahoma	3.0		6.0		19.0		14,488.95	1,937.36	16,426.31
Oregon	395.4	354.3	1,147.4	944.6	1,341.3	3,507.0	3,421,762.02	2,080,008.66	5,501,770.68
Porto Rico		14.0		30.3		30.3	8,672.64		8,672.64
South Carolina	2.0	4.0	5.1	4.0	22.8		50,432.32	11,900.00	62,332.32
South Dakota	34.4		132.1	20.6	74.6	3.3	293,330.71	114,201.31	407,532.02
Tennessee		105.2	12.2	151.7	11.0	281.2	103,872.97	80,050.00	183,922.97
Utah	472.6	279.0	801.1	740.0	485.7	651.0	1,216,473.65	624,262.31	1,840,735.96
Virginia	17.4	102.2	24.5	158.9	130.8	364.7	136,828.07	10,759.91	147,587.98
Washington	127.6	335.3	367.6	674.8	380.4	3,762.0	2,339,951.03	912,105.45	3,252,056.48
West Virginia		20.5		20.5	36.5	143.5	4,913.25	500.00	5,413.25
Wyoming	136.9	150.7	430.3	338.4	611.5	917.5	1,371,808.42	242,285.04	1,614,153.46
Total	2,024.2	4,123.5	6,873.7	10,675.3	7,242.9	20,078.6	24,559,019.07	8,155,843.08	32,714,862.15

Forest Service.

TABLE 617.—*Forest fires: Number, damage, and area, United States, 1916–1922.*

Group and State.	Number of fires by size.					Damage caused by fires.			Area burned.	
	Calendar year.	Total.	Under ¼ acre.	¼–10 acres.	Over 10 acres.	Total.	Damage to timber.	Other damage.	Forest land.	Total.
									Acres.	*Acres.*
United States	1916	41,003	11,787	14,347	14,869	$10,379,791	$8,839,719	$1,540,072	8,222,617	12,699,485
	1917	38,303	8,066	13,591	16,646	11,822,818	10,102,911	1,719,907	13,029,512	18,710,751
	1918	26,161	4,965	8,357	12,839	40,751,534	13,549,911	27,001,623	7,085,623	10,842,329
	1919	27,005	6,412	9,414	11,179	14,483,544	11,821,291	2,662,253	5,725,290	8,250,355
	1920	28,153	7,258	9,985	10,910	8,905,140	6,965,453	1,939,687	3,564,757	6,111,958
	1921	38,435	8,689	14,983	14,763	11,963,152	10,092,591	1,870,561	4,737,408	8,295,567
	1922	51,891	11,204	20,752	19,935	16,078,485	13,365,451	3,313,034	8,194,189	11,541,977
Adjusted average of seven-year period[1]		36,112	8,396	13,152	14,564	16,463,241	10,738,738	5,724,503	7,243,652	10,954,137
1922.										
Northeastern group:										
Softwood subgroup—										
Maine		216	22	93	101	114,776	106,001	8,775	19,198	21,388
New Hampshire		584	115	374	95	69,294	57,412	11,882	8,967	10,126
Vermont		160	18	97	45	9,709	7,550	2,159	1,181	3,368
New York		655	146	259	250	78,245	67,090	11,155	29,830	76,265

[1] Includes office estimates for a few States which did not report in certain years.

TABLE 617.—*Forest fires: Number, damage, and area, United States, 1916–1922*—Continued.

Group and State.	Number of fires by size.					Damage caused by fires.			Area burned.	
	Calendar year.	Total.	Under ¼ acre.	¼–10 acres.	Over 10 acres.	Total.	Damage to timber.	Other damage.	Forest land.	Total.
1922.										
Northeastern group—Contd.										
Hardwood subgroup—										
									Acres.	*Acres.*
Massachusetts	------	4,099	756	3,091	252	$501,648	$431,422	$70,226	45,282	85,241
Rhode Island	------	106	------	52	54	86,082	82,857	3,225	10,281	11,906
Connecticut	------	1,137	87	508	542	436,226	425,083	11,143	75,159	83,120
New Jersey	------	1,097	111	520	466	569,679	533,916	35,763	106,417	110,909
Appalachian group:										
Pennsylvania	------	3,634	144	1,851	1,639	670,134	532,109	138,025	327,035	332,324
Delaware	------	44	(3)	(18)	(23)	37,660	36,810	850	2,530	5,410
Maryland	------	405	13	142	250	127,956	121,793	6,163	44,898	45,198
Virginia	------	1,019	54	281	684	495,386	454,361	41,025	159,984	219,156
West Virginia	------	647	203	64	380	203,689	200,000	3,689	159,182	164,403
Southeastern group:										
North Carolina	------	1,272	217	320	735	638,243	610,266	27,977	192,722	193,739
South Carolina	------	1,471	(318)	(588)	(565)	637,589	571,304	66,285	291,117	363,757
Georgia	------	3,638	(786)	(1,455)	(1,397)	545,672	476,552	69,120	504,962	600,562
Florida	------	3,946	(852)	(1,579)	(1,515)	1,518,781	1,284,607	234,174	2,163,167	2,808,271
Alabama	------	3,382	(730)	(1,353)	(1,299)	1,467,900	1,264,658	203,332	835,125	1,044,290
Mississippi	------	2,226	(481)	(890)	(855)	919,194	713,826	205,368	527,968	842,799
East Mississippi group:										
Ohio	------	117	22	39	56	39,150	35,400	3,750	17,215	21,535
Indiana	------	86	(19)	(34)	(33)	21,458	7,524	13,934	2,834	3,412
Illinois	------	(85)	(18)	(34)	(33)	(21,195)	(7,432)	(13,763)	(2,799)	(3,370)
Kentucky	------	779	(168)	(312)	(299)	218,352	202,010	16,342	104,735	118,572
Tennessee	------	400	28	51	321	167,735	160,791	6,944	83,141	86,415
West Mississippi group:										
Missouri	------	2,429	(525)	(971)	(933)	483,450	349,587	133,863	233,444	281,995
Arkansas	------	3,120	(674)	(1,248)	(1,198)	1,071,286	946,007	125,279	774,374	997,831
Oklahoma	------	277	(60)	(111)	(106)	75,828	55,300	20,528	65,330	85,311
Louisiana	------	1,544	28	276	1,240	195,175	190,005	5,170	62,525	452,369
Texas	------	1,967	192	614	1,161	130,968	107,385	23,583	241,829	357,614
Lake States group:										
Michigan	------	538	16	225	297	35,265	25,410	9,855	13,636	38,483
Wisconsin	------	188	4	48	136	31,678	27,230	4,448	2,724	33,158
Minnesota	------	1,293	396	379	518	1,132,516	809,679	322,837	316,868	511,753
Prairie group:										
North Dakota	------	------	------	------	------	------	------	------	------	------
South Dakota	------	31	16	14	1	88	88	------	155	343
Nebraska	------	5	1	1	3	33	33	------	------	1,352
Kansas	------	------	------	------	------	------	------	------	------	------
Iowa	------	------	------	------	------	------	------	------	------	------
Rocky Mountain group:										
Northern subgroup—										
Montana	------	703	459	182	62	30,344	30,344	------	12,647	13,995
Idaho	------	1,709	1,111	394	204	776,684	725,212	51,472	60,490	83,135
Wyoming	------	62	53	6	3	691	691	------	250	306
Southern subgroup—										
Colorado	------	158	81	59	18	1,375	1,375	------	1,054	1,899
New Mexico	------	371	149	149	73	33,202	33,186	16	75,829	110,034
Arizona	------	532	319	173	40	2,413	2,406	7	1,567	2,755
Utah	------	23	9	10	4	94	69	25	69	327
Nevada	------	7	3	4	------	1	1	------	------	17
Pacific group:										
Washington	------	1,624	621	474	529	1,951,900	988,956	962,944	319,500	451,534
Oregon	------	2,127	631	765	731	490,891	223,151	267,740	190,995	208,958
California	------	1,978	545	644	789	648,760	458,562	190,198	103,174	653,272
Summary by groups.										
Northeastern—										
Softwood subgroup	------	1,615	301	823	491	272,024	238,053	33,971	59,176	111,147
Hardwood subgroup	------	6,439	954	4,171	1,314	1,593,635	1,473,278	120,357	239,139	291,176
Appalachian	------	5,749	417	2,356	2,976	1,534,825	1,345,073	189,752	693,629	766,491
Southeastern	------	15,935	3,384	6,185	6,366	5,727,469	4,921,213	806,256	4,515,061	5,833,418
East Mississippi	------	1,467	255	470	742	467,890	413,157	54,733	210,724	233,304

TABLE 617.—*Forest fires: Number, damage, and area, United States, 1916–1922*—Continued.

Group and State.	Number of fires by size.					Damage caused by fires.			Area burned.	
	Calendar year.	Total.	Under ¼ acre.	¼–10 acres.	Over 10 acres.	Total.	Damage to timber.	Other damage	Forest land.	Total.
1922.										
Summary by groups—Contd.										
West Mississippi		9,337	1,479	3,220	4,638	$1,956,707	$1,648,284	$308,423	Acres. 1,377,502	Acres. 2,175,120
Lake States		2,019	416	652	951	1,199,459	862,319	337,140	338,228	583,394
Prairie States		38	17	15	4	121	121		155	1,695
Rocky Mountain—										
Northern subgroup		2,474	1,623	582	269	807,719	756,247	51,472	73,387	97,436
Southern subgroup		1,091	561	395	135	37,085	37,037	48	78,519	115,032
Pacific		5,729	1,797	1,883	2,049	3,081,551	1,670,669	1,410,882	613,609	1,313,764

Forest Service. Compiled from Federal and State sources. Figures in parentheses indicate office estimates.

TABLE 618.—*Forest fires: Causes, United States, 1916–1922.*

Group and State.	Calendar year.	Total number.	Number of fires by causes.							
			Lightning.	Railroads.	Camp fires.[1]	Smokers.	Brush burning.	Incendiary.	Lumbering.	Miscellaneous.	Unknown.
United States	1916	41,003	3,434	4,599	3,951	------	6,623	6,112	2,764	2,191	11,329
	1917	38,302	2,523	6,209	5,182	------	5,668	5,416	2,594	2,185	8,525
	1918	26,161	3,066	4,467	3,441	------	3,256	2,317	1,406	1,959	6,249
	1919	27,005	2,721	3,820	4,041	------	3,106	3,125	1,435	2,039	6,718
	1920	29,153	3,956	4,818	3,679	------	3,188	3,078	1,724	1,781	5,929
	1921	38,435	2,188	5,515	7,638	------	4,358	5,336	1,826	2,804	8,770
	1922	51,891	3,983	7,139	5,272	5,694	7,492	10,201	2,694	4,074	5,392
Adjusted average of seven-year period[2]	------	36,112	3,135	5,287	[3]5,591	------	4,865	5,103	2,074	2,373	7,684
1922											
Northeastern group:											
Softwood subgroup—											
Maine	------	216	7	27	61	------	32	4	13	17	55
New Hampshire	------	584	2	306	104	------	57	------	7	24	82
Vermont	------	160	1	27	21	8	40	1	5	7	41
New York	------	655	7	109	185	196	99	21	7	31	------
Hardwood subgroup—											
Massachusetts	------	4,099	1	1,511	30	666	545	131	4	285	926
Rhode Island	------	106	------	21	9	------	17	3	------	2	53
Connecticut	------	1,137	------	237	62	26	147	8	4	99	554
New Jersey	------	1,097	------	330	------	74	164	------	------	59	539
Appalachian group:											
Pennsylvania	------	3,634	3	1,071	205	1,013	244	291	50	161	596
Delaware	------	44	8	12	5	5	10	------	2	2	------
Maryland	------	405	------	61	79	------	65	111	10	6	73
Virginia	------	1,019	1	82	110	97	225	159	94	79	172
West Virginia	------	647	------	71	71	------	25	81	------	6	393
Southeastern group:											
North Carolina	------	1,272	10	188	166	56	182	102	61	103	404
South Carolina	------	1,471	32	195	74	112	443	330	104	181	------
Georgia	------	3,638	102	280	328	246	876	1,212	410	184	------
Florida	------	3,946	61	275	251	256	387	2,254	244	218	------
Alabama	------	3,382	63	346	302	240	740	1,220	234	237	------
Mississippi	------	2,226	94	239	177	186	665	563	157	145	------

[1] Includes smokers, 1916–1921.
[2] Includes office estimates for a few States which did not report in certain years.
[3] Includes smokers, 1916–1922.

TABLE 618.—*Forest fires: Causes, United States, 1916–1922*—Continued.

Group and State.	Calendar year.	Total number.	Number of fires by causes.								
			Lightning.	Railroads.	Camp fires.[1]	Smokers.	Brush burning.	Incendiary.	Lumbering.	Miscellaneous.	Unknown.
1922.											
East Mississippi group:											
Ohio		117		28	23	7	19	17	5	3	15
Indiana		86		20	2	17	28	17		2	
Illinois		(85)		(20)	(2)	(17)	(27)	(17)		(2)	
Kentucky		779	458	53	45	28	70	55	40	30	
Tennessee		400		58	66	20	29	123	37	14	53
West Mississippi group:											
Missouri		2,429	246	98	251	235	610	481	71	437	
Arkansas		3,129	58	199	368	211	379	1,424	131	350	
Oklahoma		277		37	48	17	122	32	9	12	
Louisiana		1,544	4	192	204	92	112	156	128	220	436
Texas		1,967	11	83	198	295	130	470	421	223	136
Lake State group:											
Michigan		538	8	125	139	110	99	22	23	12	
Wisconsin		188		10	16	2	22	3		2	134
Minnesota		1,293	2	297	107	80	151	10	10	240	396
Prairie group:											
North Dakota											
South Dakota		31	16	1	1	8	1	1		3	
Nebraska		5	3			1				1	
Kansas											
Iowa											
Rocky Mountain group:											
Northern subgroup—											
Montana		703	231	74	99	98	43	108	15	16	19
Idaho		1,709	1,003	103	181	135	75	29	63	19	101
Wyoming		62	13	4	30	12	2			1	
Southern subgroup—											
Colorado		158	47	20	48	35	4	1		3	
New Mexico		371	205	1	48	71	14	10	9	13	
Arizona		532	361	23	29	81	10	4	7	17	
Utah		23	6		8	4	4			1	
Nevada		7			4	1	1			1	
Pacific group:											
Washington		1,624	134	164	523	216	227	89	166	105	
Oregon		2,127	465	47	284	237	198	436	98	362	
California		1,978	270	92	308	483	203	206	55	147	214
Summary:											
Northeastern group—											
Softwood subgroup		1,615	17	471	371	204	237	26	32	79	178
Hardwood subgroup		6,439	1	2,099	101	766	813	142	8	437	2,072
Appalachian group		5,749	12	1,297	470	1,115	566	642	156	254	1,234
Southeastern group		15,935	362	1,523	1,298	1,096	3,293	5,681	1,210	1,068	4,404
East Mississippi group		1,467	458	179	138	89	173	229	82	51	68
West Mississippi group		9,337	319	609	1,069	830	1,853	2,563	760	1,242	572
Lake States group		2,019	10	432	262	192	272	34	33	254	530
Prairie group		36	19	1	1	9	1	1		4	
Rocky Mountain group:											
Northern subgroup		2,474	1,247	181	310	245	120	137	78	36	120
Southern subgroup		1,091	619	44	137	192	33	15	16	35	
Pacific group		5,729	869	303	1,115	936	628	731	319	614	214

Forest service. Compiled from Federal and State sources. Figures in parentheses indicate office estimates.

[1] Includes smokers, 1916–1921.

TABLE 619.—*Grazing in the national forests: Number of permits issued and stock grazed, 1905–1922.*

Year ending June 30.	Cattle, horses, and hogs.				Sheep and goats.		
	Number of permits.	Number grazed.			Number of permits.	Number grazed.	
		Cattle.	Horses	Hogs.		Sheep.	Goats.
1904–5	7,981	632,793	59,331	----------	(3)	1,709,987	----------
1905–6	14,093	1,015,148	(1)	----------	2,500	5,702,200	(3)
1906–7	17,979	1,200,158	(1)	----------	3,809	6,657,083	(3)
1907–8	19,845	1,304,142	76,003	2,076	4,282	6,960,919	126,192
1908–9	22,163	1,491,385	90,019	4,501	5,074	7,679,698	139,896
1909–10	20,692	1,409,873	84,552	3,145	4,995	7,558,650	90,300
1910–11	20,490	1,351,922	91,516	4,500	5,105	7,371,747	77,068
1911–12	21,188	1,403,025	95,343	4,330	5,313	7,467,890	83,849
1912–13	22,032	1,455,922	97,919	3,277	5,434	7,790,953	76,898
1913–14	23,757	1,517,045	99,835	3,381	5,188	7,560,186	58,616
1914–15	25,641	1,627,321	96,933	2,792	4,969	7,232,276	51,499
1915–16	28,052	1,758,764	98,903	2,968	5,276	7,843,205	43,208
1916–17	31,136	1,953,198	98,880	2,306	5,502	7,586,034	49,939
1917–18	32,600	2,137,854	102,156	3,371	6,513	8,454,240	57,968
1918–19	32,528	2,135,527	93,251	5,154	6,624	7,935,174	60,789
1919–20	31,301	2,033,800	83,015	4,066	6,199	7,271,136	53,685
1920 (last 6 months)	2,146	88,599	6,444	1,010	652	553,263	3,346
1921 (calendar year)	31,027	1,999,680	78,115	2,453	6,214	6,936,377	43,574
1922 (calendar year)	30,148	1,915,113	69,640	1,888	5,811	6,851,690	39,889

Forest Service.

[1] Included with cattle. [2] Included in number of permits for cattle. [3] Included with sheep.

TABLE 620.—*Timber sales from national forests, 1905–1922.*

Year ending June 30.	Number of sales.			Amount cut in board feet (000 omitted).			Value of timber cut.			Other timber products.[2]
	Total.	Commercial.	"Cost" sales.[1]	Total.	Commercial sales.	"Cost" sales.[1]	Total.	Commercial sales.	"Cost" sales.[1]	
1904–5	411	411	----------	68,475	68,475	----------	[3] $85,597	[3] $85,597	----------	----------
1905–6	1,023	1,023	----------	138,665	138,665	----------	[3] 203,333	[3] 203,333	----------	----------
1906–7	1,508	1,508	----------	194,872	194,872	----------	337,952	337,952	----------	----------
1907–8	5,062	5,062	----------	392,792	392,792	----------	794,252	794,252	----------	----------
1908–9	4,980	4,980	----------	352,434	352,434	----------	677,784	677,784	----------	----------
1909–10	5,398	5,398	----------	379,616	379,616	----------	906,308	906,308	----------	----------
1910–11	5,653	5,653	----------	374,678	374,678	----------	842,993	842,993	----------	----------
1911–12	5,772	5,772	----------	431,492	431,492	----------	942,819	942,819	----------	----------
1912–13	6,182	6,091	91	495,668	494,950	718	1,075,185	1,074,682	$503	----------
1913–14	8,298	5,957	2,341	626,306	616,661	9,645	1,271,060	1,264,490	6,570	----------
1914–15	10,905	6,343	4,562	565,754	546,508	19,246	1,179,448	1,165,268	14,180	----------
1915–16	10,840	6,407	4,433	595,022	575,552	19,470	1,255,698	1,241,105	14,593	----------
1916–17	11,607	6,921	4,686	727,416	706,558	20,858	1,506,909	1,490,814	16,095	$394
1917–18	13,037	7,130	5,907	727,983	706,342	21,641	1,523,421	1,507,121	16,300	4,837
1918–19	12,592	6,570	6,022	704,769	685,172	19,597	1,512,373	1,497,702	14,671	7,779
1919–20	13,272	7,690	5,582	806,131	783,947	22,184	1,770,401	1,754,600	15,801	10,381
1920 (last 6 months)	6,653	3,608	3,045	504,113	489,841	14,272	1,178,759	1,168,885	9,874	7,562
1921 (calendar year)	13,690	7,069	6,621	687,922	666,191	21,731	1,663,182	1,646,818	16,364	4,511
1922 (calendar year)	12,926	7,200	5,726	876,973	856,147	20,826	2,235,497	2,218,165	17,332	8,096

Forest service.

[1] "Cost" sales are special sales made to farmers and settlers who are entitled by law to purchase for domestic use mature or dead national forest timber at the cost of making and administering the sale.

[2] Value of other timber products, not convertible into board feet, taken from the national forests.

[3] Estimated.

TABLE 621.—*Timber granted without charge from national forests, to local residents, under "free use" regulations, 1907–1922.*

Year ending June 30.	Number of users.	Amount cut, M board feet.	Estimated value.	Year ending June 30.	Number of users.	Amount cut, M board feet.	Estimated value.
1906–7	17,399	86,818	$100,362	1915–16	42,070	119,488	$184,720
1907–8	30,377	131,977	169,320	1916–17	41,427	113,073	149,802
1908–9	33,431	105,205	169,081	1917–18	38,073	96,616	127,688
1909–10	35,364	104,796	176,167	1918–19	34,617	90,796	113,117
1910–11	40,660	123,488	196,930	1919–20	37,336	88,060	113,000
1911–12	38,749	123,283	196,335	1920 (last 6 months)	21,168	56,813	60,391
1912–13	38,264	121,750	191,825	1921 (calendar year)	40,535	123,245	117,054
1913–14	39,466	120,575	183,223	1922 (calendar year)	37,158	89,510	96,843
1914–15	40,040	123,259	206,597				

Forest Service.

TABLE 622.—*Lumber: Production by States, calendar years, 1870–1922.*

State.	1870		1880		1890		1899		1904	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama	....	97,192	20	251,851	10	589,480	12	1,101,386	11	1,243,988
Arizona	....	1,200	....	10,715	....	5,320	....	36,182	....	55,601
Arkansas	....	78,692	....	172,503	14	537,884	5	1,623,987	8	1,680,536
California	10	318,817	17	304,795	15	517,781	22	737,035	13	1,077,499
Colorado	....	13,625	....	63,792	....	79,951	....	133,746	....	141,914
Connecticut	....	56,482	....	64,427	....	48,957	....	108,093	....	69,376
Delaware	....	18,858	....	31,572	....	23,466	....	35,955	....	30,416
Florida	19	158,524	21	247,627	22	411,869	18	790,373	18	812,693
Georgia	13	245,141	9	451,788	11	575,152	7	1,311,917	12	1,135,916
Idaho	....	1,490	....	18,204	....	27,800	....	65,363	....	211,447
Illinois	12	245,910	12	334,244	....	221,810	....	388,469	....	211,545
Indiana	5	656,400	5	915,943	8	755,407	13	1,036,999	23	563,853
Iowa	9	325,285	10	412,578	12	571,166	....	352,411	....	281,521
Kansas	....	74,163	....	45,281	....	4,037	....	10,665	....	2,120
Kentucky	15	214,074	16	305,684	20	423,185	21	774,651	21	586,371
Louisiana	....	76,459	....	133,472	25	303,726	11	1,115,306	3	2,459,227
Maine	6	639,167	7	566,656	9	597,481	19	784,647	16	883,860
Maryland	....	96,165	....	[1] 127,336	....	82,119	....	183,711	....	166,469
Massachusetts	17	197,377	23	205,244	....	211,588	....	344,190	....	262,467
Michigan	1	2,251,613	1	4,172,572	1	4,300,172	2	3,018,338	4	2,006,670
Minnesota	14	242,390	8	563,974	4	1,084,377	3	2,342,338	5	1,942,248
Mississippi	18	160,584	....	168,747	18	454,417	10	1,206,265	7	1,727,391
Missouri	8	329,676	11	399,744	23	402,052	24	723,754	24	553,940
Montana	....	12,571	....	21,420	....	89,511	....	255,685	....	236,430
Nebraska	....	13,824	....	13,585	....	8,561	....	4,655	....	1,862
Nevada	....	35,025	....	21,545	....	----------	....	725	....	[2]
New Hampshire	11	253,434	19	292,267	....	277,063	25	572,447	25	491,591
New Jersey	24	101,829	....	109,679	....	34,052	....	74,118	....	44,058
New Mexico	....	6,909	....	11,195	....	26,112	....	30,880	....	81,113
New York	3	1,310,066	4	1,184,220	6	925,417	17	878,448	22	581,976
North Carolina	22	124,938	22	141,822	16	514,692	8	1,286,638	10	1,318,411
Ohio	7	557,237	6	910,832	13	565,315	14	990,497	....	420,905
Oklahoma	....	----------	....	----------	....	2,552	....	22,104	....	[2]
Oregon	....	75,193	....	177,171	19	446,483	23	734,538	14	987,107
Pennsylvania	2	1,629,631	2	1,733,844	3	2,133,316	4	2,333,278	6	1,738,972
Rhode Island	....	12,732	....	8,469	....	7,633	....	18,528	....	15,398
South Carolina	....	95,098	24	185,772	....	198,764	....	466,429	20	609,769
South Dakota	....	3,894	....	29,286	....	[3] 28,233	....	[3] 33,734	....	13,705
Tennessee	16	204,751	18	302,673	17	460,261	16	950,958	19	775,885
Texas	23	106,897	13	328,968	7	842,648	9	1,232,404	9	1,406,473
Utah	....	19,741	....	25,709	....	14,320	....	17,548	....	12,630
Vermont	15	241,687	14	322,942	24	384,476	....	375,809	....	337,238
Virginia	20	144,225	15	315,939	21	415,512	15	959,119	15	949,797
Washington	21	128,743	....	160,176	5	1,063,584	6	1,429,032	2	2,485,628
West Virginia	....	76,375	25	180,112	....	301,958	20	778,051	17	855,889
Wisconsin	4	1,098,199	3	1,542,021	2	2,866,153	1	3,389,166	1	2,623,157
Wyoming	....	3,260	....	2,960	....	6,417	....	16,963	....	7,990
All other	....	----------	....	----------	....	[4] 2,816	....	[4] 6,571	....	[5] 51,993
United States	....	12,755,543	....	18,091,356	....	[6] 23,845,026	....	[7] 35,084,166	....	[6] 34,135,139
State groups:										
Northeastern	1	4,557,428	2	4,642,656	2	4,725,568	3	5,709,224	3	4,601,821
Central	3	2,284,423	3	3,349,232	4	3,129,988	4	5,643,379	4	3,968,388
Southern	4	923,489	4	1,754,956	3	3,717,728	2	8,403,802	1	10,468,318
North Carolina pine	6	304,261	5	743,533	6	1,128,908	5	2,712,186	6	2,877,977
Lake	2	3,592,202	1	6,278,567	1	8,250,702	1	8,749,842	2	6,572,075
North Pacific	8	203,936	7	337,347	5	1,510,067	6	2,163,570	5	3,472,735
South Pacific	7	358,842	8	326,340	8	517,781	7	737,760	7	1,077,499
N. Rocky Mountain	10	14,061	10	39,624	10	117,311	9	321,048	8	447,877
S. Rocky Mountain	9	44,735	9	114,371	9	132,120	10	235,319	10	299,248
Prairie	5	417,166	6	504,730	7	[8] 614,813	8	[8] 408,036	9	[8] 351,201

[1] Includes cut of District of Columbia.
[2] Included in "All other."
[3] Includes cut of North Dakota.
[4] Reported as the cut of Alaska.
[5] Includes cut of Alaska, Nevada, and Oklahoma.
[6] Excludes custom mills (sawing 3,196,527 M ft. in 1890).
[7] Includes both merchant and custom sawing.
[8] Includes "All other."

TABLE 622.—*Lumber: Production by States, calendar years, 1870–1922*—Contd.

State.	1905		1906		1907		1908		1909	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama	13	843,897	15	1,009,783	15	1,224,967	12	1,152,079	11	1,691,991
Arizona	----	(1)	----	50,900	----	72,134	----	43,287	----	62,731
Arkansas	6	1,488,589	6	1,839,368	6	1,988,504	4	1,656,991	5	2,111,390
California	11	1,001,608	11	1,348,559	14	1,345,943	15	996,115	18	1,143,567
Colorado	----	56,758	----	110,212	----	134,239	----	117,036	----	141,710
Connecticut	----	69,845	----	124,880	----	140,011	----	137,855	----	163,371
Delaware	----	12,260	----	44,487	----	50,892	----	41,184	----	55,440
Florida	19	658,097	17	888,137	21	889,058	20	730,906	17	1,201,734
Georgia	17	712,604	18	831,675	19	853,697	17	904,608	15	1,342,249
Idaho	----	212,725	----	418,944	----	513,788	24	518,625	25	645,800
Illinois	----	119,095	----	141,374	----	141,317	----	123,319	----	170,181
Indiana	24	352,362	25	447,808	----	504,790	----	411,868	----	556,418
Iowa	----	129,472	----	168,747	----	144,271	----	97,242	----	132,021
Kansas	----	[2] 1,272	----	(1)	----	(1)	----	(1)	----	4,716
Kentucky	22	464,676	20	661,299	17	912,908	21	658,539	21	860,712
Louisiana	3	2,293,809	2	2,796,395	2	2,972,119	2	2,722,421	2	3,551,918
Maine	15	745,705	13	1,088,747	16	1,103,808	16	929,350	19	1,111,565
Maryland	----	163,749	----	219,098	----	213,786	----	168,534	----	267,939
Massachusetts	----	252,804	----	354,483	----	364,231	----	284,526	----	361,200
Michigan	5	1,719,687	4	2,094,279	7	1,827,685	7	1,478,252	10	1,889,724
Minnesota	4	1,925,804	7	1,794,144	9	1,660,716	9	1,286,122	12	1,561,508
Mississippi	8	1,299,390	5	1,840,250	4	2,094,465	3	1,861,016	3	2,872,669
Missouri	23	362,217	24	507,694	24	548,774	----	458,938	23	660,159
Montana	----	189,291	----	328,727	----	343,814	----	311,533	----	308,582
Nebraska	----	[3]	----	----	----	----	----	----	----	(1)
Nevada	----	(1)	----	----	----	(1)	----	(1)	----	(1)
New Hampshire	25	340,727	23	539,259	22	754,023	22	606,760	24	649,606
New Jersey	----	17,704	----	36,253	----	39,942	----	31,930	----	61,020
New Mexico	----	(1)	----	103,079	----	113,204	----	79,439	----	91,987
New York	14	750,280	19	810,949	20	848,894	19	781,391	22	681,440
North Carolina	10	1,080,602	12	1,222,974	11	1,622,387	13	1,136,796	4	2,177,715
Ohio	----	331,552	----	438,775	25	529,087	25	459,259	----	542,904
Oklahoma	----	11,607	----	[4] 48,694	----	140,015	----	158,756	----	225,730
Oregon	9	1,262,610	10	1,604,894	10	1,635,563	8	1,468,158	9	1,898,995
Pennsylvania	7	1,397,164	9	1,620,681	8	1,734,729	10	1,203,041	14	1,462,771
Rhode Island	----	14,054	----	21,528	----	32,855	----	30,528	----	25,489
South Carolina	21	466,478	22	506,928	23	649,058	23	560,888	20	897,660
South Dakota	----	11,502	----	22,634	----	34,841	----	25,859	----	31,057
Tennessee	20	540,920	21	634,587	18	894,968	18	700,642	16	1,223,840
Texas	12	929,863	8	1,741,473	3	2,229,500	6	1,524,008	7	2,099,130
Utah	----	3,616	----	7,768	----	14,090	----	15,059	----	12,638
Vermont	----	266,676	----	329,422	----	373,660	----	304,017	----	351,571
Virginia	16	715,197	14	1,063,241	12	1,412,477	11	1,198,725	6	2,104,716
Washington	1	3,917,166	1	4,305,053	1	3,777,606	1	2,915,928	1	3,862,916
West Virginia	18	672,902	16	976,173	13	1,395,979	14	1,097,015	13	1,472,942
Wisconsin	2	2,543,503	3	2,331,305	5	2,003,279	5	1,613,315	8	2,025,038
Wyoming	----	4,360	----	13,213	----	17,479	----	18,822	----	28,602
All other	----	[5] 88,825	----	[6] 1,213	----	[7] 5,891	----	[7] 10,627	----	[8] 11,220
United States	----	30,502,961	----	37,550,736	----	40,256,154	----	33,224,369	----	44,509,761
State groups:										
Northeastern	4	4,030,968	4	5,189,987	2	5,656,831	2	4,622,116	5	5,197,012
Central	5	2,843,694	5	3,807,100	5	4,027,823	5	3,999,580	3	5,487,165
Southern	1	8,226,159	1	10,947,081	1	12,342,435	1	10,710,845	1	14,796,731
N. C. pine	6	2,262,277	6	2,853,143	6	3,683,922	6	2,896,409	6	5,177,091
Lake	2	6,188,994	2	6,219,728	3	5,491,688	4	4,377,689	4	5,476,270
North Pacific	3	5,179,776	3	5,909,947	4	5,413,169	3	4,384,086	2	5,761,911
South Pacific	7	1,061,608	7	1,348,559	7	1,345,943	7	996,115	7	1,143,507
N. Rocky Mt.	8	402,016	8	747,671	8	857,602	8	830,158	8	954,382
S. Rocky Mt.	10	64,731	9	291,232	9	351,746	9	273,643	9	387,608
Prairie	9	[9] 242,738	10	[9] 236,288	10	[9] 185,003	10	[9] 133,728	10	[9] 179,024

[1] Included in "All other."
[2] Includes cut of Nebraska.
[3] Included with Kansas.
[4] Reported as cut of Indian Territory.
[5] Includes cut of Arizona, Nevada, and New Mexico.
[6] Includes cut of Kansas, and a part of Oklahoma.
[7] Includes cut of Kansas and Nevada.
[8] Includes cut of Nebraska and Nevada.
[9] Includes "All other."

TABLE 622.—*Lumber: Production by States, calendar years, 1870–1922*—Contd.

State.	1910		1911		1912		1913		1914	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama	11	1,465,623	13	1,226,212	12	1,378,151	8	1,523,936	8	1,494,732
Arizona	----	72,655	----	73,139	----	76,287	----	77,363	----	78,667
Arkansas	7	1,844,446	6	1,777,303	7	1,821,811	7	1,911,647	6	1,796,780
California	14	1,254,826	14	1,207,561	14	1,203,059	13	1,183,380	12	1,303,183
Colorado	----	121,398	----	95,908	----	88,451	----	74,602	----	102,117
Connecticut	----	126,463	----	124,661	----	109,251	----	93,730	----	81,883
Delaware	----	46,642	----	23,853	----	28,285	----	18,039	----	25,517
Florida	18	992,091	16	983,824	15	1,067,525	15	1,055,047	15	1,073,821
Georgia	16	1,041,617	19	801,611	17	941,291	17	844,254	16	1,026,191
Idaho	21	745,984	20	765,070	21	713,575	21	652,016	20	702,503
Illinois	----	113,506	----	96,651	----	122,528	----	102,902	----	66,227
Indiana	----	422,963	----	380,613	----	401,017	----	332,993	----	298,571
Iowa	----	75,446	----	59,974	----	46,593	----	21,676	----	11,443
Kansas	----	639	----	(1)	----	(1)	----	(1)	----	(1)
Kentucky	20	753,556	21	632,415	22	641,296	22	541,531	22	596,392
Louisiana	2	3,733,900	2	3,566,456	2	3,876,211	2	4,161,560	1	3,956,434
Maine	19	860,273	18	828,417	19	882,128	18	834,673	17	992,594
Maryland	----	154,554	----	144,078	----	174,320	----	140,469	----	162,097
Massachusetts	----	239,206	----	273,317	----	250,320	----	224,580	----	143,094
Michigan	9	1,681,081	10	1,466,754	10	1,488,827	12	1,222,983	13	1,214,435
Minnesota	12	1,457,734	9	1,485,015	11	1,436,726	14	1,149,704	11	1,312,230
Mississippi	3	2,122,205	3	2,041,615	3	2,381,893	3	2,610,581	3	2,280,966
Missouri	24	501,691	25	418,586	----	422,470	24	416,608	25	370,571
Montana	----	319,089	----	228,416	----	272,174	----	357,974	----	317,842
Nebraska	----	(1)	----	(1)	----	(1)	----	(1)	----	(1)
Nevada	----	(1)	----	(1)	----	(1)	----	(1)	----	(1)
New Hampshire	----	443,907	----	388,619	25	479,499	----	309,424	24	482,744
New Jersey	----	36,542	----	28,639	----	34,810	----	27,248	----	48,746
New Mexico	----	83,544	----	83,728	----	82,650	----	65,818	----	57,167
New York	23	506,074	23	526,283	23	502,351	23	457,720	23	486,195
North Carolina	8	1,824,722	5	1,798,724	4	2,193,308	6	1,957,258	4	2,227,351
Ohio	25	490,039	24	427,161	24	492,834	25	414,943	----	286,063
Oklahoma	----	164,663	----	143,869	----	168,896	----	140,284	----	200,594
Oregon	4	2,084,633	4	1,863,698	5	1,916,160	4	2,096,467	5	1,817,875
Pennsylvania	15	1,241,199	15	1,048,606	16	992,180	19	781,547	19	864,719
Rhode Island	----	14,392	----	9,016	----	14,421	----	14,984	----	15,902
South Carolina	22	706,831	22	584,872	20	816,930	20	752,184	21	701,540
South Dakota	----	16,340	----	13,046	----	20,986	----	19,103	----	18,744
Tennessee	17	1,016,475	17	914,579	18	982,572	16	872,311	18	885,035
Texas	6	1,884,134	8	1,681,080	6	1,902,201	5	2,081,471	7	1,554,005
Utah	----	11,786	----	10,573	----	9,055	----	5,403	----	8,698
Vermont	----	284,815	----	239,254	----	235,983	----	194,647	----	249,608
Virginia	10	1,652,192	12	1,359,790	8	1,569,997	10	1,273,953	9	1,488,070
Washington	1	4,097,492	1	4,064,754	1	4,099,775	1	4,592,053	2	3,946,189
West Virginia	13	1,370,737	11	1,337,786	13	1,316,732	11	1,249,559	14	1,118,480
Wisconsin	5	1,891,291	7	1,761,986	9	1,498,876	9	1,493,353	10	1,394,001
Wyoming	----	30,931	----	33,309	----	13,560	----	12,940	----	11,852
All other	----	[2] 11,955	----	[3] 11,786	----	[3] 22,525	..	[3] 19,461	----	[3] 15,672
United States	----	[4] 40,018,282	----	[4] 37,803,207	----	[4] 39,158,414	----	[4] 38,387,009	----	[4] [5] 37,346,023
State groups:										
Northeastern	6	3,954,067	6	3,634,743	6	3,712,557	6	3,097,061	6	3,553,092
Central	4	4,674,967	4	4,237,791	5	4,333,449	4	3,930,847	5	3,621,339
Southern	1	13,248,679	1	12,221,970	1	13,537,894	1	14,328,810	1	13,383,523
N. C. pine	5	4,183,745	5	3,743,386	3	4,590,235	3	3,983,395	3	4,417,404
Lake	3	5,030,106	3	4,713,755	4	4,434,429	5	3,866,040	4	3,917,666
North Pacific	2	6,182,125	2	5,968,452	2	6,015,935	2	6,699,520	2	5,744,064
South Pacific	7	1,254,896	7	1,207,561	7	1,203,059	7	1,188,380	7	1,308,183
N. Rocky Mt.	8	1,065,073	8	994,086	8	985,749	8	1,010,590	8	1,081,350
S. Rocky Mt.	9	320,314	9	296,657	9	270,063	9	236,126	9	258,483
Prairie	10	[6] 104,380	10	[6] 84,806	10	[6] 90,104	10	[6] 60,240	10	[6] 45,859

[1] Included in "All other."
[2] Includes cut of Nebraska.
[3] Includes cut of Kansas, Nebraska, and Nevada.
[4] Mills cutting less than 50 M feet each year excluded.
[5] Excludes custom mills (sawing 3,196,527 M feet in 1890).
[6] Includes "All other."

TABLE 622.—*Lumber: Production by States, calendar years, 1870–1922*—Contd.

State.	1915		1916		1917		1918	
	Rank.	Quantity. (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama	8	1,500,000	8	1,720,000	7	1,555,000	9	1,270,000
Arizona	------	75,915	------	93,270	------	79,022	------	83,661
Arkansas	5	1,800,000	7	1,910,000	5	1,765,000	5	1,470,000
California	11	[1] 1,130,000	11	[1] 1,420,000	9	[1] 1,417,068	7	[1] 1,277,084
Colorado	------	74,500	------	77,580	------	71,500	------	56,882
Connecticut	------	90,000	------	75,000	------	66,000	------	64,000
Delaware	------	25,000	------	12,000	------	8,500	------	6,000
Florida	12	1,110,000	10	1,425,000	11	1,230,000	12	950,000
Georgia	17	1,000,000	16	1,000,000	19	740,000	21	515,000
Idaho	21	777,000	19	849,600	17	760,000	15	802,529
Illinois	------	110,000	------	60,000	------	45,000	------	42,000
Indiana	------	350,000	------	270,000	------	240,000	------	250,000
Iowa	------	35,000	------	20,000	------	13,436	------	14,200
Kansas	------	[2]	------	534	------	4,255	------	[3] 8,401
Kentucky	22	500,000	22	525,000	23	360,000	23	340,000
Louisiana	2	3,900,000	2	4,200,000	2	4,210,000	2	3,450,000
Maine	16	1,000,000	17	935,000	16	770,000	17	660,000
Maryland	------	165,000	------	90,237	------	68,000	------	71,000
Massachusetts	------	250,000	------	210,000	------	155,000	------	175,000
Michigan	13	1,100,000	13	1,230,000	13	1,065,000	13	940,000
Minnesota	14	1,100,000	15	1,220,000	12	1,075,000	11	1,005,000
Mississippi	3	2,300,000	3	2,730,000	4	2,425,000	4	1,935,000
Missouri	------	350,000	------	260,000	------	275,000	------	273,000
Montana	------	328,000	25	383,900	24	350,000	24	340,000
Nebraska	------	[4]	------	[4]	------	------	------	[4]
Nevada	------	[5]	------	[5]	------	[5]	------	[5]
New Hampshire	23	500,000	24	385,000	25	290,000	22	350,000
New Jersey	------	45,000	------	40,000	------	25,000	------	19,500
New Mexico	------	65,787	------	91,600	------	93,000	------	88,915
New York	24	475,000	23	400,000	22	360,000	25	335,000
North Carolina	4	2,090,000	5	2,100,000	8	1,460,000	10	1,240,000
Ohio	25	400,000	------	280,000	------	225,000	------	235,000
Oklahoma	------	230,000	------	240,000	------	240,000	------	195,000
Oregon	7	1,690,000	4	2,222,000	3	2,585,000	3	2,710,250
Pennsylvania	18	950,000	20	750,000	21	565,000	20	530,000
Rhode Island	------	15,000	------	18,000	------	10,646	------	13,100
South Carolina	19	800,000	18	857,000	18	745,000	19	545,000
South Dakota	------	22,562	------	29,650	------	29,045	------	29,533
Tennessee	20	800,000	21	700,000	20	630,000	18	630,000
Texas	6	1,750,000	6	2,100,000	6	1,735,000	6	1,350,000
Utah	------	10,892	------	9,385	------	8,507	------	9,815
Vermont	------	260,000	------	200,000	------	170,000	------	160,000
Virginia	9	1,500,000	12	1,335,000	14	1,060,000	14	855,000
Washington	1	3,950,000	1	4,494,000	1	4,568,500	1	4,603,123
West Virginia	15	1,100,000	14	1,220,000	15	890,000	16	720,000
Wisconsin	10	1,210,000	9	1,600,000	10	1,385,000	8	1,275,000
Wyoming	------	17,000	------	18,495	------	8,700	------	7,501
All other	------	[3]	------	[3]	------	------	------	------
United States	------	[3] 37,011,656	------	[3] 39,807,251	------	[3] 35,831,239	------	[3] 31,890,494
State groups:								
Northeastern	4	3,775,000	6	3,115,237	6	2,488,146	6	2,373,600
Central	5	3,670,000	5	3,315,000	5	2,665,000	5	2,490,000
Southern	1	13,590,000	1	15,325,000	1	13,900,000	1	11,135,000
N. C. pine	3	4,390,000	3	4,292,000	4	3,265,000	4	2,640,000
Lake	6	3,410,000	4	4,050,000	3	3,525,000	3	3,220,000
North Pacific	2	5,640,000	2	6,716,000	2	7,153,500	2	7,313,373
South Pacific	7	1,130,000	7	1,420,000	7	1,417,068	7	1,277,084
N. Rocky Mt	8	1,105,000	8	1,233,500	8	1,110,000	8	1,142,529
S. Rocky Mt	9	244,094	9	290,330	9	260,789	9	246,774
Prairie	10	57,562	10	50,184	10	46,736	10	52,134

[1] Includes cut of Nevada.
[2] Mills cutting less than 50 M feet each per year.
[3] Includes cut of Nebraska.
[4] Included with Kansas.
[5] Included with California.

TABLE 622.—*Lumber: Production by States, calendar years, 1870–1922*—Contd.

State.	1919		1920		1921		1922, preliminary.	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama	5	1,798,746	7	1,439,200	6	1,386,426	7	1,457,608
Arizona	------	73,655	------	121,160	------	46,418	------	88,800
Arkansas	6	1,772,157	6	1,452,200	8	1,301,095	8	1,382,032
California	9	1,259,363	5	[1] 1,513,000	7	1,350,438	5	[1] 1,720,556
Colorado	------	64,864	------	70,000	------	41,076	------	38,917
Connecticut	------	86,708	------	71,600	------	64,841	------	53,198
Delaware	------	27,437	------	19,800	------	20,839	------	14,139
Florida	10	1,137,432	12	1,000,900	10	922,332	9	980,014
Georgia	13	893,965	15	761,800	12	792,579	13	809,391
Idaho	16	765,388	13	970,000	16	542,620	11	857,581
Illinois	------	64,628	------	56,900	------	42,531	------	24,387
Indiana	------	282,487	------	258,300	------	138,397	------	148,569
Iowa	------	18,493	------	14,200	------	5,372	------	6,131
Kansas	------	2,840	------	[2] 4,500	------	[3]	------	[2] 3,657
Kentucky	22	512,078	22	421,100	24	255,922	24	210,360
Louisiana	2	3,163,871	3	3,120,000	2	3,215,110	2	3,386,000
Maine	21	596,116	21	505,600	19	421,536	20	362,224
Maryland	------	113,362	------	85,600	------	71,169	------	54,358
Massachusetts	------	166,841	------	139,200	------	136,736	------	94,656
Michigan	14	875,891	16	749,800	15	571,387	15	656,952
Minnesota	18	699,639	19	576,300	20	412,145	18	511,744
Mississippi	4	2,390,135	4	2,224,000	3	2,081,520	4	2,267,695
Missouri	25	321,383	25	274,200	------	158,418	25	201,849
Montana	------	287,378	24	410,000	25	213,989	22	303,458
Nebraska	------	505	------	[4]	------	[4]	------	[4]
Nevada	------	20,335	------	[5]	------	[5]	------	[5]
New Hampshire	24	338,777	------	248,600	23	261,999	------	180,706
New Jersey	------	36,888	------	23,300	------	23,860	------	9,553
New Mexico	------	86,808	------	112,240	------	94,520	------	126,449
New York	23	357,764	23	410,900	22	283,863	23	222,257
North Carolina	7	1,654,435	9	1,246,700	9	931,015	10	936,248
Ohio	------	280,076	------	247,400	------	133,218	------	136,877
Oklahoma	------	168,403	------	163,400	------	120,371	------	149,323
Oregon	3	2,577,403	2	3,317,000	4	2,022,219	3	3,023,768
Pennsylvania	19	630,471	20	520,000	21	368,102	21	333,289
Rhode Island	------	11,030	------	8,900	------	4,946	------	3,030
South Carolina	20	621,679	18	610,500	13	684,333	12	854,799
South Dakota	------	42,970	------	45,100	------	27,062	------	35,395
Tennessee	15	792,132	14	779,800	18	451,937	19	435,979
Texas	8	1,379,774	8	1,328,800	5	1,502,333	6	1,542,708
Utah	------	11,917	------	7,750	------	7,689	------	6,827
Vermont	------	218,479	------	164,500	------	139,183	------	95,967
Virginia	12	1,098,038	11	1,014,400	14	592,979	16	617,493
Washington	1	4,961,220	1	5,525,000	1	3,831,800	1	5,836,277
West Virginia	17	763,103	17	697,600	17	467,002	17	554,277
Wisconsin	11	1,116,338	10	1,059,900	11	800,477	14	775,540
Wyoming	------	8,674	------	7,550	------	5,750	------	7,850
All other	------	------	------	------	------	[6] 13,310	------	------
United States	------	[7,8] 34,552,076	------	[9] 33,798,800	------	[10] 26,960,864	------	[9] 31,568,888
State groups:								
Northeastern	6	2,583,873	6	2,198,000	4	1,797,074	7	1,423,377
Central	4	3,015,887	4	2,735,300	5	1,784,009	5	1,762,298
Southern	1	12,704,483	1	11,490,300	1	11,321,766	1	11,974,771
N. Carolina pine	3	3,374,152	3	2,871,600	3	2,208,327	3	2,408,540
Lake	5	2,691,868	5	2,386,000	6	1,647,425	4	1,944,236
North Pacific	2	7,538,623	2	8,842,000	2	5,854,019	2	8,880,045
South Pacific	7	1,279,698	7	1,513,000	7	1,350,438	6	1,720,556
N. Rocky Mt.	8	1,052,766	8	1,380,000	8	756,609	8	1,161,039
S. Rocky Mt.	9	245,918	9	318,700	9	195,453	9	268,843
Prairie	10	64,808	10	63,900	10	[11] 45,744	10	45,183

Forest Service. Compiled from Forest Service and Bureau of the Census reports. Figures 1915–1918 and for 1920 include estimates for firms not reporting.

Northeastern: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
Central: Illinois, Indiana, Kentucky, Missouri, Ohio, Tennessee, West Virginia.
Southern: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, Texas
North Carolina Pine: North Carolina, South Carolina, Virginia.
Lake: Michigan, Minnesota, Wisconsin.
North Pacific: Oregon, Washington.
South Pacific: California, Nevada.
North Rocky Mountain: Idaho, Montana.
South Rocky Mountain: Arizona, Colorado, New Mexico, Utah, Wyoming.
Prairie: Iowa, Kansas, Nebraska, South Dakota, North Dakota.

[1] Includes cut of Nevada.
[2] Includes cut of Nebraska.
[3] Included in "All other."
[4] Included with Kansas.
[5] Included with California.
[6] Includes cut of Kansas, Nebraska, and Nevada.
[7] Includes both merchant and custom sawing.
[8] Includes 2,655 mills cutting less than 50 M feet each per year.
[9] Mills cutting less than 50 M feet each year excluded.
[10] Excludes custom mills.
[11] Includes "All other."

TABLE 623.—*Lumber value: Production by States, calendar years, 1840, 1850, and 1860 compared with 1920.*

State.	1840		1850		1860		1920	
	Rank.	Value.	Rank.	Value.	Rank.	Value.	Rank.	Value.
Alabama	20	$169,008	16	$1,103,481	17	$1,873,484	8	$45,708,992
Arizona								4,539,865
Arkansas	19	176,617		122,918		1,155,902	6	56,722,932
California			20	959,485	8	3,943,881	5	60,459,480
Colorado								2,008,300
Connecticut		147,841		534,794		572,731		2,548,960
Delaware		5,562		236,863		276,161		580,140
Florida		20,846		391,034		1,476,645	13	37,934,110
Georgia		114,060		923,403	12	2,412,906	18	23,600,564
Idaho							14	37,694,200
Illinois	16	203,666	11	1,324,484	10	2,543,985		2,215,209
Indiana	8	420,791	6	2,195,351	7	4,271,605		14,426,055
Iowa		50,280		470,760	16	2,124,502		583,011
Kansas						1,550,737		[1] 617,737
Kentucky		130,329	8	1,502,434	11	2,463,085		17,527,246
Louisiana		66,106	13	1,129,677		1,575,905	2	137,155,200
Maine	2	1,808,683	3	[2] 5,872,573	4	6,598,565		18,398,784
Maryland	14	226,977		[2] 614,168		[2] 626,989		2,865,888
Massachusetts	11	344,845	7	1,552,265	13	2,218,144		4,279,008
Michigan	9	392,325	5	2,464,329	3	7,040,190	15	34,483,302
Minnesota				57,800		1,234,203	20	20,850,534
Mississippi	18	192,794		913,107	18	1,828,627	4	82,421,440
Missouri		70,355	9	1,479,124	9	3,074,226		10,293,468
Montana								13,509,500
Nebraska						335,340		[1] 13,568
Nevada								[3]
New Hampshire	7	433,217	17	1,099,492		1,208,629		8,412,624
New Jersey	12	271,591	14	1,123,052	20	1,608,610		983,627
New Mexico				20,000		45,150		4,265,120
New York	1	3,891,302	1	13,126,759	2	9,710,945		19,760,184
North Carolina	6	506,766	18	985,075		1,074,003	10	41,901,587
Ohio	13	262,821	4	3,864,452	5	5,158,076		12,914,280
Oklahoma								6,305,606
Oregon			10	1,355,500		690,008	3	121,070,500
Pennsylvania	3	1,150,220	2	7,729,058	1	10,743,752	19,	22,994,400
Rhode Island		44,455		241,556		74,592		307,228
South Carolina	5	537,684	15	1,108,880		1,124,440	17	24,401,085
South Dakota								1,349,100
Tennessee	15	217,606		725,387	15	2,199,703	16	33,227,278
Texas				466,012	19	1,735,454	9	45,312,080
Utah				14,620		119,145		178,638
Vermont	10	346,939		618,065		901,519		6,471,430
Virginia	4	538,092	19	977,412	14	2,201,187	11	40,758,592
Washington						1,172,520	1	190,778,250
West Virginia [4]							12	38,556,352
Wisconsin	17	202,289	12	1,218,516	6	4,377,880	7	46,729,392
Wyoming								193,204
All other								
United States		12,943,507		58,521,976		93,338,606		1,298,899,107
State groups: [5]								
Northeastern	1	8,671,632	1	32,748,645	1	34,540,637		87,601,670
Central	3	1,305,566	2	11,091,232	2	19,710,680	3	129,289,948
Southern	4	738,921	3	5,049,722	4	12,054,105	1	435,160,924
North Carolina pine	2	1,582,542	5	3,071,267	5	4,399,630	4	107,061,864
Lake	5	594,564	4	3,740,645	3	12,652,273	5	102,064,228
North Pacific				1,355,500		1,862,528	2	311,848,750
South Pacific				959,485		3,943,881		60,459,480
N. Rocky Mt.								51,203,700
S. Rocky Mt.				34,620		164,295		11,186,127
Prairie		50,280		470,760		4,010,579		3,059,410

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

[1] Estimated.
[2] Including District of Columbia (product valued at $29,000 in 1850, and $21,125 in 1860).
[3] Included with California.
[4] Part of Virginia prior to 1870.
[5] Distribution of States same as shown in Table 622

TABLE 624.—*Lumber production: By species, calendar years, 1899–1922.*

Species or kind of wood.	1899		1904		1905		1906		1907	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Yellow pine	1	9,658,548	1	11,583,070	1	8,771,966	1	11,661,077	1	13,215,185
Douglas fir	5	1,739,507	4	2,928,409	3	4,319,479	2	4,989,843	2	4,746,872
White pine	2	7,772,304	2	5,393,704	2	4,983,698	3	4,563,727	3	4,192,706
Hemlock	4	2,420,673	3	3,268,787	4	2,804,083	4	3,537,329	5	3,373,018
Western yellow pine	8	944,560	7	1,279,237	7	998,542	7	1,396,777	7	1,527,195
Spruce	6	1,448,091	6	1,303,886	6	1,165,940	6	1,644,987	6	1,726,797
Cypress	10	496,836	9	749,592	8	756,369	9	899,276	10	757,699
Redwood	13	360,167	12	519,267	11	411,689	11	659,678	13	569,459
Cedar	....	232,978	....	226,085	12	363,900	....	357,845	....	251,002
Larch	....	56,619	....	34,784	....	146,636	....	289,473	....	324,509
White fir	....		....		....	52,725	....	104,329	....	146,508
Sugar pine	....	58,558	....		....	128,985	....	133,649	....	115,605
Balsam fir	....		....		....	35,506	....		....	[1] 53,339
Lodgepole pine	....		....		....		....		....	
All other soft woods	....	9,135	....	188,541	....		....	67,264	....	
Softwoods	....	26,153,063	....	27,353,312	....	24,914,618	....	30,225,245	....	31,001,225
Oak	3	4,436,027	5	2,902,855	5	1,833,769	5	2,829,393	4	3,718,789
Maple	9	633,466	10	527,558	9	608,746	8	882,878	8	739,073
Gum, red and sap	15	285,417	11	523,990	13	316,588	12	453,678	11	689,200
Yellow poplar	7	1,115,242	8	858,554	10	592,748	10	693,132	9	862,849
Chestnut	....	206,688	15	243,537	....	224,413	13	407,379	12	653,239
Birch	....	132,601	....	224,009	15	240,704	15	370,432	15	387,614
Beech	....		....		....	219,000	....	275,661	14	430,005
Basswood	14	308,669	....	228,041	14	258,399	14	376,838	....	381,088
Elm	11	456,731	14	258,330	....	227,038	....	224,795	....	290,570
Cottonwood	12	415,124	13	321,574	....	236,660	....	263,996	....	293,161
Ash	....	269,120	....	169,178	....	159,634	....	214,460	....	252,040
Hickory	....	96,636	....	106,824	....	95,803	....	148,212	....	203,211
Tupelo	....		....		....	35,794	....	47,882	....	68,842
Walnut	....	38,681	....	31,455	....	29,851	....	48,174	....	41,490
Sycamore	....	29,715	....	18,602	....		....		....	46,044
Cherry	....		....		....		....		....	9,667
All other hardwoods	....	209,504	....	312,920	....	[2] 518,865	....	97,581	....	
Miner species	....		....		....		....		....	15,647
Hardwoods	....	8,634,021	....	6,781,827	....	5,598,343	....	7,315,491	....	9,254,929
Total	....	34,787,084	....	34,135,739	....	30,502,961	....	37,550,736	....	40,256,154

Species or kind of wood.	1908		1909		1910		1911		1912	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Yellow pine	1	11,236,372	1	16,277,135	1	14,143,471	1	12,896,706	1	14,737,052
Douglas fir	2	3,675,114	2	4,856,378	2	5,266,644	2	5,054,243	2	5,175,123
White pine	3	3,344,921	4	3,900,034	4	3,352,163	3	3,280,594	4	3,138,227
Hemlock	5	2,536,843	5	3,651,399	5	2,838,129	5	2,556,308	5	2,426,564
Western yellow pine	7	1,275,550	7	1,499,985	6	1,562,106	6	1,330,700	7	1,219,444
Spruce	6	1,411,992	6	1,749,547	7	1,449,912	7	1,261,726	6	1,238,660
Cypress	9	748,297	9	955,535	9	935,659	8	981,527	9	907,227
Redwood	14	404,802	13	521,680	12	548,493	13	489,768	13	496,736
Cedar	....	272,764	....	345,008	....	415,639	....	374,925	....	329,060
Larch	....	382,466	15	427,214	....	392,514	....	368,216	15	407,064
White fir	....	98,120	....	89,318	....	132,327	....	124,397	....	122,613
Sugar pine	....	92,809	....	97,191	....	169,165	....	117,987	....	132,416
Balsam fir	....	69,956	....	126,702	....	74,580	....	88,375	....	84,281
Lodgepole pine	....		....	29,733	....	29,634	....	33,914	....	22,039
All other softwoods	....		....		....		....		....	
Softwoods	....	25,546,666	....	33,986,959	....	31,160,856	....	28,992,368	....	30,556,416

[1] Includes a small quantity of softwoods in New York not separately reported.
[2] Reported as "Mixed" and probably includes some softwoods.

TABLE 624.—*Lumber production: By species, calendar years, 1899–1922*—Contd.

Species or kind of wood.	1908		1909		1910		1911		1912	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Oak	4	2,771,511	3	4,414,457	3	3,522,098	4	3,098,444	3	3,318,952
Maple	8	874,983	8	1,106,604	8	1,006,637	9	951,667	8	1,020,864
Gum, red and sap	11	589,347	11	706,945	11	610,208	11	582,967	10	694,260
Yellow poplar	10	654,122	10	858,500	10	734,926	10	659,475	11	623,289
Chestnut	12	539,341	12	663,891	13	535,049	12	529,022	12	554,230
Birch	15	386,367	----	452,370	15	420,769	14	432,571	----	388,272
Beech	13	410,072	14	511,244	14	437,325	15	403,881	14	435,250
Basswood	----	319,505	----	399,151	----	344,704	----	304,621	----	296,717
Elm	----	273,845	----	347,456	----	265,107	----	236,108	----	262,141
Cottonwood	----	232,475	----	265,600	----	220,305	----	198,629	----	227,477
Ash	----	225,367	----	291,209	----	246,035	----	214,398	----	234,548
Hickory	----	197,372	----	333,929	----	272,252	----	240,217	----	278,757
Tupelo	----	69,170	----	96,676	----	92,071	----	98,142	----	122,545
Walnut	----	43,681	----	46,108	----	36,449	----	38,293	----	43,083
Sycamore	----	43,332	----	56,511	----	45,063	----	42,836	----	49,468
Cherry	----	18,054	----	24,594	----	18,237	----	21,422	----	22,245
All other hardwoods	----		----		----		----		----	
Minor species	----	29,819	----	37,557	----	50,191	----	48,126	----	59,900
Hardwoods	----	7,678,363	----	10,612,802	----	8,857,426	----	8,100,819	----	8,631,998
Total	----	33,224,369	----	44,509,761	----	40,018,282	----	37,003,207	----	39,158,414

Species or kind of wood.	1913		1914		1915		1916		1917	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Yellow pine	1	14,839,363	1	14,472,804	1	14,700,000	1	15,055,000	1	13,539,464
Douglas fir	2	5,556,006	2	4,763,693	2	4,431,249	2	5,416,000	2	5,585,000
White pine	4	2,568,636	4	2,632,587	4	2,700,000	4	2,700,000	3	2,250,000
Hemlock	5	2,319,982	5	2,165,728	5	2,275,000	5	2,350,000	5	2,200,000
Western yellow pine	6	1,258,528	6	1,327,365	7	1,293,985	6	1,690,000	6	1,960,000
Spruce	8	1,046,816	7	1,245,614	6	1,400,000	7	1,250,000	7	1,125,000
Cypress	7	1,097,247	8	1,013,013	8	1,100,000	8	1,000,000	8	950,000
Redwood	12	510,271	12	535,199	13	420,294	13	490,850	11	487,458
Cedar	----	358,444	14	499,903	14	420,000	----	410,000	----	265,000
Larch	14	395,273	----	358,561	----	375,000	14	455,000	14	360,000
White fir	----	88,109	----	112,627	----	125,048	----	190,000	----	218,200
Sugar pine	----	149,926	----	130,159	----	117,701	----	169,250	----	132,600
Balsam fir	----	93,752	----	125,212	----	100,000	----	125,000	----	88,900
Lodgepole pine	----	20,106	----	18,374	----	26,486	----	30,800	----	12,500
Softwoods	----	30,302,549	----	29,406,839	----	29,484,763	----	31,331,900	----	29,174,122
Oak	3	3,211,718	3	3,278,908	3	2,970,000	3	3,300,000	4	2,250,000
Maple	9	901,487	9	909,743	9	900,000	9	975,000	9	860,000
Gum, red and sap	10	772,514	10	675,380	10	655,000	10	800,000	10	788,000
Yellow poplar	11	620,176	13	519,221	12	464,000	11	580,000	15	350,000
Chestnut	13	505,802	11	540,591	11	490,000	12	535,000	13	415,000
Birch	15	378,739	15	430,667	15	415,000	15	450,000	12	415,000
Beech	----	365,501	----	376,464	----	360,000	----	360,000	----	296,000
Basswood	----	257,102	----	264,656	----	260,000	----	275,000	----	203,000
Elm	----	214,532	----	214,294	----	210,000	----	240,000	----	205,000
Cottonwood	----	208,938	----	195,198	----	180,000	----	200,000	----	190,000
Ash	----	207,816	----	189,499	----	190,000	----	210,000	----	175,000
Hickory	----	162,980	----	116,113	----	100,000	----	125,000	----	95,000
Tupelo	----	120,420	----	124,480	----	170,000	----	275,000	----	205,000
Walnut	----	40,565	----	25,573	----	90,000	----	90,000	----	62,000
Sycamore	----	30,804	----	22,773	----	25,000	----	40,000	----	32,000
Cherry	----	14,126	----		----		----		----	
Minor species	----	71,240	----	55,624	----	47,893	----	40,351	----	56,117
Hardwoods	----	8,084,460	----	7,939,184	----	7,526,893	----	8,475,351	----	6,657,117
Total	----	38,387,009	----	37,346,023	----	37,011,656	----	39,807,251	----	35,831,239

TABLE 624.—*Lumber production: By species, calendar years, 1899–1922*—Contd.

Species or kind of wood.	1918		1919		1920		1921		1922, preliminary.	
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Yellow pine	1	10,845,000	1	13,062,938	1	11,091,000	1	10,959,863	1	11,500,771
Douglas fir	2	5,820,000	2	5,902,169	2	6,960,000	2	4,642,122	2	6,831,580
White pine	3	2,200,000	6	1,723,642	6	1,500,000	5	1,273,710	6	1,382,755
Hemlock	5	1,875,000	5	1,754,998	5	1,850,000	6	1,201,063	5	1,534,641
Western yellow pine	6	1,710,000	4	1,755,015	4	2,290,000	4	1,432,273	3	2,080,994
Spruce	7	1,125,000	7	979,968	9	825,000	9	629,256	9	731,371
Cypress	10	630,000	10	656,212	10	625,000	7	770,920	7	868,952
Redwood	11	443,231	12	410,442	11	476,500	11	467,804	11	565,965
Cedar	----	245,000	----	332,234	----	260,000	15	234,576	12	334,063
Larch	14	355,000	13	388,121	14	390,000	----	213,397	15	274,589
White fir	----	213,000	----	223,422	----	280,000	----	186,363	14	297,727
Sugar pine	----	111,800	----	133,658	----	146,000	----	133,566	----	194,067
Balsam fir	----	82,000	----	68,030	----	85,000	----	29,350	----	32,903
Lodgepole pine	----	12,500	----	16,281	----	31,000	----	11,241	----	13,936
Softwoods	----	25,667,531	----	27,407,130	----	26,809,500		22,185,504	----	26,644,334
Oak	4	2,025,000	3	2,708,280	3	2,500,000	3	1,592,175	4	1,605,154
Maple	8	815,000	8	857,489	7	875,000	10	609,852	10	639,781
Gum, red and sap	9	765,000	9	851,431	8	850,000	8	683,398	8	808,461
Yellow poplar	15	290,000	----	328,538	15	350,000	14	235,418	----	273,971
Chestnut	12	400,000	11	545,696	12	475,000	13	312,486	13	310,801
Birch	13	370,000	14	375,079	13	405,000	12	319,192	----	263,094
Beech	15	290,000	15	358,985	----	325,000	----	190,387	----	163,448
Basswood	----	200,000	----	183,562	----	195,000	----	125,633	----	134,168
Elm	----	195,000	----	194,417	----	225,000	----	132,276	----	142,702
Cottonwood	----	175,000	----	144,155	----	155,000	----	122,305	----	113,829
Ash	----	170,000	----	154,931	----	170,000	----	127,843	----	130,735
Hickory	----	100,000	----	170,013	----	150,000	----	73,523	----	56,682
Tupelo	----	237,000	----	143,730	----	180,000	----	134,751	----	158,938
Walnut	----	100,000	----	39,218	----	35,000	----	31,121	----	38,735
Sycamore	----	30,000	----	28,114	----	31,000	----	17,932	----	17,901
Cherry	----		----		----		----		----	
Minor species	----	60,963	----	61,308	----	68,300	----	67,008	----	66,154
Hardwoods	----	6,222,963	----	7,144,946	----	6,989,300	----	4,775,360	----	4,924,554
Total	----	31,890,494	----	34,552,076	----	33,798,800	----	26,960,864	----	31,568,888

Forest Service. Compiled from Forest Service and Bureau of the Census reports. Figures for 1915–1918 and for 1920 include estimates for firms not reporting.

TABLE 625—*Lath and shingles: Production by States, calendar years, 1870–1922.*

State.	1870		1880		1890		1899	
	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Alabama	1,115	1,422	14,147	5,427	35,105	292,583	28,721	267,278
Arizona			150	1,760		1,500	2,040	350
Arkansas	2,200	4,747	6,527	61,758	20,364	329,823	21,164	349,522
California	2,877	103,547	2,420	138,718	7,350	305,964	11,507	650,090
Colorado	2,710	3,675	4,925	27,214	4,500	10,625	5,558	5,165
Connecticut	813	15,510	1,719	7,192	1,500	3,523	418	3,214
Delaware	100		317	506	650	100	1,130	20
District of Columbia			1,000					
Florida	1,400		20,101	3,081	35,000	114,107	21,761	177,123
Georgia	1,883	1,560	17,438	25,332	23,250	102,877	31,496	243,797
Idaho		400	750	4,235	1,000	7,825	3,220	15,806
Illinois	13,650	40,928	25,977	15,306	30,000	18,339	30,674	42,825
Indiana	11,202	73,707	28,031	20,634	23,300	78,789	10,138	34,198
Iowa	47,884	97,928	79,924	128,100	110,500	200,649	58,638	66,140
Kansas	320	12,108	25	825			4	
Kentucky	8,050	13,573	26,856	25,253	35,808	36,748	17,091	59,375
Louisiana	8		7,745	30,195	7,500	411,725	99,852	504,819
Maine	266,869	364,201	184,820	426,530	190,355	483,153	217,376	465,862
Maryland	5,849	3,809	7,955	4,429	3,500	12,277	5,369	22,824
Massachusetts	873	36,486	16,947	19,667	20,365	24,523	8,807	20,500
Michigan	304,054	658,741	461,805	2,584,717	478,935	2,848,820	259,917	1,926,110
Minnesota	49,768	127,813	88,068	194,566	176,300	461,472	387,064	498,800
Mississippi	651	5,500	7,908	5,355	10,355	11,270	6,083	32,027
Missouri	12,970	10,442	20,839	8,832	26,785	24,089	24,835	28,227
Montana	400	2,356	2,620	9,627	3,360	1,295	14,231	6,880
Nebraska		900				2,805	1	
Nevada	75	700		485				
New Hampshire	10,383	52,225	49,454	67,086	55,834	79,193	74,221	40,499
New Jersey	3,167	3,624	8,948	10,717	9,150	17,608	3,559	33,835
New Mexico			107	722	2,319	3,140	2,165	4,800
New York	87,999	372,183	79,399	305,711	85,250	491,641	66,468	100,294
North Carolina	1,530	13,817	13,340	8,707	19,330	100,442	48,782	212,467
North Dakota					1,600	2,000		
Ohio	15,238	59,632	56,625	24,876	38,265	49,302	18,519	13,605
Oklahoma							[1] 75	[1] 103
Oregon	7,346		18,245	5,040	14,110	51,530	41,779	31,189
Pennsylvania	95,592	275,273	183,740	288,561	195,273	422,701	266,949	309,858
Rhode Island		5,119	10	1,986		3,790	16	2,267
South Carolina	2,500	1,200	22,133	10,036	19,150	23,618	20,311	88,878
South Dakota			[2] 564	[2] 4,823	1,080	7,545	1,856	800
Tennessee	5,370	11,337	21,275	14,205	35,359	19,537	33,199	59,735
Texas	623	30,209	14,131	112,523	39,565	214,082	4,181	210,633
Utah	1,138	8,061	1,583	9,203		1,115	793	2,400
Vermont	6,672	28,502	19,745	55,711	23,475	69,035	9,314	52,899
Virginia	4,258	614	14,402	8,223	19,204	11,566	36,502	27,784
Washington	17,000	10,450	6,550	3,610	49,600	545,297	145,131	4,337,992
West Virginia	197,871	5,600	12,071	3,695	23,480	1,009	58,440	34,350
Wisconsin	102,663	806,807	215,132	862,922	385,500	1,366,022	418,011	994,427
Wyoming		750	300	865		1,385	629	2,185
All other States						[3] 70		
United States	1,295,091	3,265,516	1,761,788	5,555,046	2,263,308	9,275,809	2,523,998	12,102,017

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

[1] Includes Indian Territory.
[2] Includes both Dakotas.
[3] Reported as the cut of Alaska.

TABLE 625—*Lath and shingles: Production by States, calendar years, 1870–1922*—Continued.

State.	1904		1905		1906		1907	
	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Alabama	26,500	112,093		265,080			39,948	147,641
Arizona	5,635		(1)	(1)			13,845	
Arkansas	52,504	269,706		302,135		228,563	71,163	186,163
California	16,962	737,589		847,863		834,329	18,035	762,178
Colorado	17,171	950					8,056	725
Connecticut	475	6,225					215	3,528
Delaware	320	350					965	535
District of Columbia								
Florida	20,975	188,652		154,524		175,720	41,449	186,844
Georgia	28,569	364,378		177,986		161,339	66,674	194,263
Idaho	16,137	41,972					45,763	63,678
Illinois	16,572	12,408					1,597	200
Indiana	2,960	3,960					3,249	2,327
Iowa	58,807	35,404					22,439	11,754
Kansas			(1)	(1)				
Kentucky	15,837	43,775					36,589	24,053
Louisiana	151,403	901,866	250,259	743,398	343,530	866,507	281,495	812,667
Maine	227,173	482,414	255,482	312,497	329,549	340,948	294,558	401,759
Maryland	13,616	6,677					16,043	5,467
Massachusetts	4,877	10,086					8,573	12,168
Michigan	236,343	1,347,163	221,386	875,051	317,395	915,153	203,287	855,749
Minnesota	368,843	318,783	422,025	193,738	501,673		497,628	51,540
Mississippi	60,410	50,654					74,156	51,906
Missouri	22,509	74,036					14,179	43,651
Montana	15,649	4,586					31,826	4,089
Nebraska			(1)	(1)				
Nevada		(1)	(1)	(1)				
New Hampshire	19,032	17,327					94,482	19,346
New Jersey	12,977	31,411					10,345	26,990
New Mexico	12,654	950	(1)	(1)			19,778	7,724
New York	[2] 55,233	[2] 55,581					[2] 81,187	[2] 65,554
North Carolina	31,907	192,239					51,040	129,101
North Dakota								
Ohio	8,671	3,820					16,395	953
Oklahoma		(1)					72	1,130
Oregon	76,915	117,511	116,456		156,973		134,048	206,766
Pennsylvania	219,630	115,211	219,143		200,494		245,482	108,910
Rhode Island		620					2	529
South Carolina	20,177	81,108					21,697	43,787
South Dakota	955	260					2,970	210
Tennessee	21,215	35,121					37,967	8,609
Texas	9,567	75,926					58,259	95,753
Utah	929	550					338	1,370
Vermont	18,649	16,415					14,784	19,184
Virginia	37,904	30,388					79,764	21,300
Washington	229,720	8,357,457	559,813	10,509,914	479,187	7,286,508	430,791	6,886,542
West Virginia	68,325	24,630			137,506		142,595	3,323
Wisconsin	416,282	474,928	328,905	417,046	457,880	302,876	364,180	343,170
Wyoming	560	1,071					894	1,150
All other States		[3] 1,226	[4] 728,688	[4] 321,677	[5] 883,620	[5] 746,227		
United States	2,647,847	14,547,477	3,111,157	15,240,909	3,812,807	11,858,260	3,663,602	11,824,475

[1] Included in "All other States."
[2] These statistics were collected by the New York State Forest, Fish, and Game Commission.
[3] Includes Indian Territory, Nevada, Oklahoma, and Alaska.
[4] Includes Arizona, Kansas, Nebraska, Nevada, New Mexico, Indian Territory, and others.
[5] Includes production of many States; no further data available.

TABLE 625—*Lath and shingles: Production by States, calendar years, 1870–1922*—Continued.

State.	1908		1909		1910		1911	
	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Alabama	53,182	146,334	50,979	245,871	40,982	142,810	55,624	147,558
Arizona	8,150		7,816	583	4,422	120	13,495	125
Arkansas	76,533	156,181	78,362	208,080	110,736	132,721	100,046	145,886
California	26,854	465,718	32,615	574,342	30,987	453,839	35,842	404,55
Colorado	8,612	1,378	11,494	657	8,760	350	1,714	740
Connecticut	174	4,126	203	2,801	237	1,789	341	2,638
Delaware	884	312	1,080	570	1,764	141	1,292	263
District of Columbia								
Florida	44,398	156,291	55,741	283,206	42,404	171,421	52,609	167,371
Georgia	64,445	302,633	58,704	443,260	57,203	317,663	36,753	256,409
Idaho	58,473	58,106	86,740	62,308	84,134	60,425	70,627	36,354
Illinois	847	367	1,055	2,245	230	650	371	10
Indiana	2,737	4,060	3,600	7,340	1,592	1,609	3,538	527
Iowa	19,646	7,974	22,978	8,264	16,981	5,142	15,042	2,686
Kansas							[1]	
Kentucky	11,558	36,930	19,776	55,010	11,500	21,193	15,943	18,187
Louisiana	348,548	668,729	377,708	757,808	457,437	776,691	355,516	799,995
Maine	215,072	468,901	337,086	598,131	253,752	436,965	199,602	559,215
Maryland	15,953	11,410	17,583	12,352	7,843	6,028	7,696	4,499
Massachusetts	3,222	12,982	11,885	13,347	1,485	7,220	4,842	6,473
Michigan	161,425	905,555	216,308	891,649	194,627	696,652	178,404	510,622
Minnesota	342,776	85,102	478,008	74,818	415,478	57,523	402,992	45,905
Mississippi	69,253	109,704	90,926	151,303	90,077	106,692	103,594	66,963
Missouri	15,115	63,823	19,931	51,932	11,948	45,837	10,270	32,109
Montana	23,258	1,355	35,430	525	40,876	533	18,502	285
Nebraska			[1]		[1]		[1]	
Nevada			[1]		[1]		[1]	
New Hampshire	55,948	15,504	26,873	30,132	31,338	14,833	28,147	11,078
New Jersey	16,137	31,235	19,143	35,727	13,143	20,746	8,197	20,989
New Mexico	11,838	450	10,571	150	11,254	200	12,842	112
New York	67,199	53,014	70,878	91,886	47,934	36,072	41,685	30,301
North Carolina	36,735	151,153	70,724	280,942	63,948	169,119	37,304	161,652
North Dakota								
Ohio	10,486	1,062	17,508	3,227	14,737	1,339	10,299	1,225
Oklahoma	88	1,358	1,233	4,635	4,048	5,665	7,417	940
Oregon	107,522	246,721	161,512	293,644	190,660	319,894	95,525	392,894
Pennsylvania	117,898	71,240	143,059	79,336	125,575	47,073	118,923	26,743
Rhode Island	3	630		1,000		330		981
South Carolina	22,142	64,262	28,303	122,709	21,730	95,047	10,292	55,848
South Dakota	1,820	320	5,730	93	1,455	32	866	1,506
Tennessee	28,456	37,807	31,179	35,692	21,550	19,044	16,678	19,614
Texas	39,546	104,460	59,627	137,719	43,163	106,280	14,813	64,526
Utah	453	1,203	264	725	207	960	686	225
Vermont	6,925	16,276	7,240	24,001	15,150	10,655	8,025	10,666
Virginia	76,650	25,072	127,555	39,172	96,061	14,726	84,282	30,858
Washington	464,754	7,288,361	451,384	8,879,467	445,119	8,333,639	338,578	7,745,525
West Virginia	99,167	4,803	150,820	6,829	164,200	3,168	129,601	4,508
Wisconsin	250,474	322,096	299,845	392,863	296,502	317,570	319,973	324,009
Wyoming	1,328	1,485	1,224	960	690	956	938	300
All other States			[2] 500		[3] 700		[3] 1,414	
United States	2,986,684	12,106,483	3,703,195	14,907,371	3,494,718	12,976,362	2,971,110	12,113,867

[1] Included in "All other States."
[2] Includes Nebraska and Nevada.
[3] Includes Kansas, Nebraska, and Nevada.

TABLE 625—*Lath and shingles: Production by States, calendar years, 1870–1922*—Continued.

State.	1912		1915		1916		1917	
	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Alabama	56,595	126,205	59,570	67,629	64,922	183,662	39,685	54,735
Arizona	7,985		23,293	200	24,918		19,878	180
Arkansas	90,216	114,458	97,185	20,501	78,157	45,411	147,578	59,927
California	18,954	471,592	[1] 38,284	200,755	[1] 30,713	348,622	[1] 37,651	261,434
Colorado	4,975	265	8,003	61	5,964	172	491	35
Connecticut	1,409	2,240	343	833	12,805	202	736	555
Delaware	765	290	400	25	30	89	568	20
District of Columbia								
Florida	51,078	309,081	89,860	116,054	85,187	131,795	97,954	143,792
Georgia	37,702	216,688	34,969	69,308	49,316	131,763	46,889	112,430
Idaho	50,895	37,641	85,672	49,512	117,365	79,960	86,264	52,631
Illinois	366	50	384		1,045		5	
Indiana	2,244	195	391	270	825	162	415	
Iowa	4,734	1,260		100	500			
Kansas								
Kentucky	10,481	8,623	12,588	6,835	9,340	4,672	7,153	1,601
Louisiana	330,474	718,026	418,554	385,610	354,551	404,263	348,806	453,819
Maine	210,023	393,772	172,346	268,004	396,935	221,039	142,488	166,101
Maryland	6,535	3,437	12,877	430	5,774	1,601	208	751
Massachusetts	5,032	7,310	558	1,832	2,036	865	583	533
Michigan	173,415	459,359	124,543	250,640	335,846	201,171	84,352	203,907
Minnesota	269,095	30,834	230,686	8,041	267,788	6,577	213,092	1,498
Mississippi	81,315	72,700	123,011	11,950	162,689	25,196	133,925	39,261
Missouri	4,128	33,917	9,855	3,820	1,332	998	5,485	2,362
Montana	15,064	210	27,334	10,280	25,522	16,266	23,332	3,259
Nebraska								
Nevada								
New Hampshire	11,487	8,847	24,663	5,936	18,398	3,543	8,865	1,731
New Jersey	19,016	29,129	9,482	17,269	5,808	17,876	4,504	7,797
New Mexico	9,097		2,902	181	10,851	320	9,546	1,500
New York	28,188	27,919	15,111	5,247	12,829	9,577	10,478	8,302
North Carolina	94,066	196,943	96,474	74,773	86,551	123,959	36,287	73,703
North Dakota								
Ohio	14,051	488	4,717	25	6,976	125	3,004	15
Oklahoma	9,391	2,547	11,176	890	19,711	220	18,866	338
Oregon	131,734	271,205	95,801	336,652	142,352	471,762	132,418	481,353
Pennsylvania	78,758	26,957	70,877	8,064	63,016	8,652	43,928	3,924
Rhode Island		432		400		125	30	70
South Carolina	13,259	57,812	13,350	11,854	44,967	24,382	21,934	13,610
South Dakota	381	271	7,202	436	7,055	334	100	336
Tennessee	10,575	29,713	24,510	7,912	13,795	9,176	10,318	5,167
Texas	28,152	73,870	40,698	22,245	42,686	32,749	47,654	61,011
Utah	172	177	744	920	979	392	333	1,295
Vermont	4,538	9,363	6,290	6,388	9,990	7,993	6,170	2,894
Virginia	71,356	27,752	97,921	49,758	63,263	43,387	30,244	9,000
Washington	336,538	7,996,251	389,995	6,313,335	264,600	6,739,388	230,194	6,313,364
West Virginia	159,119	1,441	82,561	736	96,665	2,800	44,233	481
Wisconsin	257,657	267,945	179,193	122,882	218,598	175,455	185,074	151,726
Wyoming	128	470	581	785	289	376	20	65
All other States	2,000							
United States	2,719,163	12,037,685	2,745,134	8,459,378	3,163,029	9,477,077	2,281,738	8,696,513

[1] Includes cut of mills in Nevada.

TABLE 625—*Lath and shingles: Production by States, calendar years, 1870–1922*—Continued.

State.	1918		1919		1920		1921		1922, preliminary.	
	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Ala.	25, 227	50, 065	42, 502	62, 241	32, 444	32, 615	44, 781	37, 524	50, 885	27, 108
Ariz.	17, 337	250	13, 402	176	18, 453		12, 154		20, 287	120
Ark.	26, 481	25, 870	72, 827	98, 937	50, 108	19, 770	57, 421	41, 694	75, 172	6, 571
Calif.	[1] 22, 281	146, 071	53, 042	191, 831	[1] 36, 793	949, 568	51, 737	149, 555	[1] 88, 018	184, 009
Colo.		186	1, 927	500	3, 279		877		31	196
Conn.	570	325	325	770	200	103	420	307	305	241
Del.	20		552		950	4	225	7	400	26
D. C.										
Fla.	55, 171	102, 725	76, 402	128, 286	89, 948	67, 689	102, 275	77, 847	153, 329	43, 295
Ga.	19, 083	46, 395	19, 718	114, 806	39, 940	59, 058	25, 464	55, 194	57, 784	29, 347
Idaho	70, 494	32, 893	69, 150	22, 657	97, 182	25, 211	58, 939	18, 941	99, 420	35, 048
Ill.	8		10		35		34		100	
Ind.	235		155	420	450	100	60	413	304	
Iowa.			15		26		200			
Kans.										
Ky.	1, 887	2, 015	3, 288	2, 562	2, 752	910	2, 079	1, 350	1, 683	2, 032
La.	236, 543	272, 866	199, 018	300, 784	215, 738	211, 503	282, 726	217, 720	364, 545	208, 604
Me.	62, 671	87, 193	104, 223	188, 576	101, 704	140, 038	110, 623	163, 356	188, 700	144, 941
Md.	278	3, 374	1, 280	3, 282	5 79	282	2, 069	752	273	303
Mass.	342	317	595	760	184	708	382	343	322	563
Mich.	48, 533	148, 565	51, 469	144, 173	50, 892	116, 678	58, 165	121, 139	81, 834	110, 945
Minn.	155, 905	36	115, 741	4, 451	117, 300	1, 678	122, 449	16, 465	197, 927	11, 170
Miss.	81, 598	18, 431	90, 204	34, 002	113, 707	22, 858	139, 324	30, 406	161, 897	14, 481
Mo.	3, 618	967	1, 724	9, 541	3, 737	603	1, 101	4, 573	822	4, 978
Mont.	21, 903	5, 825	21, 362	253	47, 673	6, 243	41, 223	397	53, 312	202
Nebr.										
Nev.			1, 237							
N. H.	2, 235	776	6, 656	3, 356	10, 642	1, 452	7, 099	5, 826	5, 550	1, 649
N. J.	2, 312	3, 045	6, 016	9, 440	3, 838	5, 827	8, 070	8, 522	2, 869	2, 448
N. Mex.	15, 206	30	12, 549		19, 783	10	15, 020		23, 220	
N. Y.	3, 863	4, 066	3, 537	4, 935	13, 494	5, 630	4, 387	1, 162	6, 909	2, 336
N. C.	10, 894	48, 080	19, 079	92, 139	14, 182	47, 403	16, 164	46, 064	21, 642	40, 958
N. Dak.										
Ohio.	1, 492	140	1, 612	100	1, 361	225	77	200	495	
Okla.	10, 743	85	9, 905	50	14, 173	410	16, 985	50	20, 193	125
Oreg.	78, 780	281, 138	122, 848	530, 066	173, 732	288, 721	163, 331	366, 555	275, 590	488, 116
Pa.	18, 476	3, 856	14, 287	8, 027	13, 084	3, 486	8, 289	2, 886	6, 871	1, 939
R. I.				685		20		30		
S. C.	7, 913	5, 208	6, 656	11, 932	9, 278	5, 031	18, 637	4, 451	35, 610	8, 881
S. Dak.	1, 216	24	1, 534	100	9, 362	106	151	185	7, 921	189
Tenn.	7, 685	44, 760	8, 997	6, 574	5, 473	3, 513	10, 186	3, 019	12, 722	8, 400
Tex.	21, 866	17, 746	35, 916	13, 581	48, 766	3, 798	52, 884	22, 468	60, 287	5, 562
Utah.	350	1, 397	147	531	382	425	320	1, 345	404	675
Vt.	1, 252	3, 254	1, 089	3, 343	1, 188	3, 524	877	3, 094	943	3, 638
Va.	16, 902	1, 160	27, 073	1, 637	27, 548	1, 940	19, 352	1, 632	35, 995	2, 096
Wash.	154, 668	4, 238, 714	339, 058	7, 095, 122	404, 942	4, 847, 105	379, 714	5, 366, 085	618, 102	6, 664, 876
W. Va.	33, 289	44	22, 005	120	33, 543	128	32, 972		49, 651	
Wis.	122, 858	91, 907	138, 936	96, 928	124, 198	64, 479	100, 673	70, 647	158, 275	74, 852
Wyo.	2	383	10		50		200	183	60	313
All other.							575			
U. S.	1, 362, 187	5, 690, 182	1, 724, 078	9, 192, 704	1, 952, 983	6, 938, 854	1, 970, 696	6, 843, 187	2, 940, 714	8, 131, 242

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

[1] Includes cut of Nevada.

TABLE 626.—*Wood and saw timber: Annual world production and consumption.*

Country.	Production.		Consumption.		
			Wood.		
	Total wood.	Saw timber.	Total	Per capita.	Saw timber.
	1,000 cubic feet.	*1,000 cubic feet.*	*1,000 cubic feet.*	*Cubic feet.*	*1,000 cubic feet.*
United States	24,360,000	13,750,000	24,104,000	228.0	13,556,000
Canada	2,500,000	1,106,900	2,058,440	285.0	665,340
Mexico	700,000	42,000	710,000	45.8	52,080
Other North and Central America	306,420	86,715	319,350		98,425
North America	27,806,420	14,985,615	27,191,790	188.0	14,371,765
Russia	7,000,000	4,000,000	6,600,000	66.0	3,600,000
Sweden	1,564,826	1,191,415	749,710	129.3	383,355
Finland	1,316,664	577,776	1,001,504	299.0	606,980
Germany	1,172,395	604,583	1,702,395	27.0	1,134,583
France	963,000	300,000	1,098,910	26.0	426,410
Great Britain and Ireland	45,000	20,000	693,719	15.3	668,719
Other Europe	4,941,202	2,166,462	4,795,059		2,024,294
Europe	17,003,087	9,160,236	16,641,297	35.8	8,844,291
Japan	2,255,620	383,455	2,220,000	28.4	347,835
China	1,972,263	284,163	1,986,600	6.0	297,960
India	1,572,275	174,000	1,575,000	5.0	176,725
Asiatic Russia	1,100,000	571,000	1,098,000	52.1	569,000
Other Asia	1,028,872	143,650	1,037,516		147,113
Asia	7,929,030	1,556,268	7,916,516	9.1	1,538,573
Brazil	1,300,000	100,000	1,296,900	42.5	96,900
Chile	684,020	45,700	687,620	177.7	49,300
Argentina	197,800	77,800	225,800	27.3	106,800
Colombia	110,000	10,000	110,000	20.1	10,000
Other South America	199,645	25,105	206,570		31,360
South America	2,491,465	258,605	2,526,890	39.2	294,360
Rhodesia	126,962	10,141	127,186	73.6	10,365
Nigeria	86,250	2,005	86,250	5.0	2,005
Union of South Africa	65,942	19,803	85,399	14.2	39,260
Other Africa	438,219	30,501	475,481		62,496
Africa	717,373	62,450	774,316	5.7	114,126
Australian Commonwealth	197,379	49,874	213,752	41.8	66,247
New Zealand	67,000	42,000	63,269	59.7	38,269
Oceania	10,309	867	19,741	10.0	9,888
Australia and Oceania	274,688	92,741	296,762	36.4	114,404
Total world production	56,222,063	26,115,915	[1] 55,347,571	32.2	[1] 25,277,549

Forest Service. Compiled from "Forest Resources of the World."

[1] The figures for total world consumption do not exactly correspond with those for production, although they must be approximately equal. The differences are due to various discrepancies in the data, such as differences in the years for which figures on individual countries are based, different converting factors used in different countries, and differences in the completeness of customs statistics. Data represent averages of recent years.

TABLE 627.—*Wood pulp: Production of the United States, 1869–1922.*

Calendar year.	Total.	Mechanical.		Sulphite.		Soda.		Sulphate.	
	Short tons.	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*
1869	1,077	(1)	------	(1)	------	(1)	------	----------	------
1879	22,570	(1)	------	(1)	------	(1)	------	----------	------
1889	305,544	(1)	------	----------	------	(1)	------	----------	------
1899	1,179,525	586,374	50	416,037	35	177,114	15	----------	------
1904	1,921,768	968,976	51	756,022	39	196,770	10	----------	------
1907	2,547,879	(1)	------	(1)	------	(1)	------	----------	------
1908	2,118,947	(1)	------	(1)	------	(1)	------	----------	------
1909	2,495,523	1,179,266	47	1,017,631	41	298,626	12	----------	------
1910	2,533,976	(1)	------	(1)	------	(1)	------	----------	------
1911	2,686,134	(1)	------	(1)	------	(1)	------	----------	------
1914	[2] 2,893,150	1,293,661	45	1,151,327	39	347,928	12	52,641	2
1916	3,435,001	1,508,139	44	1,466,402	43	387,021	11	73,439	2
1917	3,509,939	1,535,953	44	1,451,757	41	437,430	13	84,799	2
1918	3,313,861	1,364,504	41	1,456,633	44	350,362	11	142,362	4
1919	[3] 3,517,952	1,518,829	[3] 43	1,419,829	40	411,693	12	120,378	4
1920	3,821,704	1,583,914	41	1,585,834	42	463,305	12	188,651	5
1921	[4] 2,875,601	[4] 1,267,382	44	[4] 1,166,926	41	[4] 300,533	10	[4] 140,760	5
1922	3,521,644	1,483,787	42	1,374,319	39	419,857	12	243,681	7

Forest Service. Compiled from Forest Service and Bureau of the Census repots.

[1] Not reported separately.
[2] Includes screenings, mechanical 11,769 tons, and chemical not shown by process, 35,824 tons; combined equal to 1.6 per cent of total.
[3] Includes screenings, mechanical 12,220 tons, and chemical not shown by process, 35,003 tons; combined equal to 1.3 per cent of total.
[4] Includes screenings.

TABLE 628.—*Paper: Production, United States, 1810–1922.*

Calendar year.	Total.	Newsprint.		Book.		Boards.		Wrapping.		Fine.		All other.	
	Short tons.	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*
1810	[1] 8,000	500	17	630	21	----------	------	----------	------	650	22	1,220	40
1819	[1] 12,500	----------	------	----------	------	----------	------	----------	------	----------	------	----------	------
1829	----------	----------	------	----------	------	----------	------	----------	------	----------	------	----------	------
1839	[1] 38,000	----------	------	----------	------	----------	------	----------	------	----------	------	----------	------
1849	[1] 78,000	----------	------	----------	------	----------	------	----------	------	----------	------	----------	------
1859	126,889	[2] 65,754	52	----------	------	8,150	6	33,379	26	11,134	9	8,472	7
1869	[1] 386,000	----------	------	----------	------	----------	------	----------	------	----------	------	----------	------
1879	452,107	[2] 149,177	33	----------	------	20,014	4	134,294	30	32,937	7	115,685	26
1889	[1] 1,098,029	190,053	18	150,886	14	149,901	14	276,973	25	69,199	6	255,017	23
1899	2,167,593	569,212	26	323,208	15	394,111	18	535,252	25	112,707	5	233,103	11
1904	3,106,696	912,822	29	515,547	17	520,651	17	644,291	21	146,832	5	366,553	11
1909	4,216,708	1,175,554	28	694,905	16	883,088	21	763,067	18	198,213	5	501,881	12
1914	5,270,047	1,321,167	25	934,979	17	1,291,805	25	881,799	17	247,728	5	592,569	11
1917	5,919,647	1,359,012	23	892,283	15	1,804,589	31	844,229	14	288,355	5	731,179	12
1918	6,051,523	1,260,285	21	849,157	14	1,926,986	32	891,362	15	368,012	6	755,721	12
1919	6,190,361	1,374,517	22	914,823	14	1,950,037	32	869,631	14	343,762	6	737,591	12
1920	7,334,614	1,511,968	21	1,104,464	15	2,313,449	32	1,043,812	14	389,322	5	971,599	13
1921	5,356,317	1,226,189	23	725,992	14	1,664,931	31	782,468	15	242,485	4	714,252	13
1922	7,017,800	1,447,688	21	981,919	14	2,156,113	31	1,048,393	15	361,050	5	1,022,637	14

Forest Service. Compiled from Bureau of the Census reports prior to 1917; Federal Trade Commission, 1917–1922.

[1] Estimated from values reported by the Bureau of the Census.
[2] Includes both newsprint and book paper.

TABLE 629.—*Timber removed annually from forests of the United States.*

Kind of material.	Timber removed		Approximate value or cost.[1]	Equivalent in lumber which could have been sawed from same trees.			Equivalent in standing timber.			
	Unit.	Quantity.		Hardwoods.	Softwoods.	Total.	Hardwoods.	Softwoods	Total.	Per cent.
			Dollars.	*M board feet.*	*M board feet.*	*M board feet.*	*M cubic feet.*	*M cubic feet.*	*M cubic feet.*	
Fuel wood	Cords	100,000,000	475,000,000	3,500,000	1,500,000	5,000,000	6,650,000	2,850,000	9,500,000	38.33
Lumber, dimension material, and sawed ties	M board feet	37,700,000	1,138,917,000	9,425,000	28,275,000	37,700,000	2,064,075	6,192,225	8,256,300	33.31
Fencing	Number of posts	900,000,000	225,000,000	165,000	660,000	825,000	360,000	1,440,000	1,800,000	7.26
Ties, hewed	Number	70,000,000	73,500,000	1,680,000	420,000	2,100,000	672,000	168,000	840,000	3.39
Pulpwood	Cords	5,000,000	79,750,000	195,000	2,145,000	2,340,000	48,700	536,300	585,000	2.36
Mine timbers	Cubic feet	293,000,000	56,913,000	439,500	439,500	879,000	197,775	197,775	395,550	1.60
Cooperage:										
Tight staves	M staves	350,000	19,250,000	399,000	133,000	532,000	87,450	29,100	116,550	1.27
Tight heading	M sets	24,000	12,000,000	141,800	36,200	178,000	31,000	8,000	39,000	
Slack staves	M staves	1,200,000	18,000,000	240,400	121,600	362,000	52,800	26,400	79,200	
Slack heading	M sets	90,000	10,800,000	166,500	166,500	333,000	36,490	36,500	72,990	
Hoops	Thousands	120,000	1,800,000	21,500		21,500	7,080		7,080	
Shingles	do	9,000,000	37,710,000		900,000	900,000		198,000	198,000	.89
Distillation wood	Cords	1,400,000	9,268,000	185,000		185,000	120,000	13,000	133,000	.54
Veneer logs	M feet, log scale	576,000	25,079,000	587,520	103,680	691,200	90,000	15,980	105,980	.43
Tanning extract wood	Cords	1,000,000	10,250,000	87,000		87,000	95,000		95,000	.38
Poles	Number	4,250,000	10,625,000	55,000	200,000	255,000	11,700	43,550	55,250	.22
Vehicle stock, woodenware, handles, furniture, etc.	M board feet	200,000	7,288,000	197,700	2,300	200,000	45,070	730	45,800	.18
Piling	Number of pieces	1,500,000	6,000,000	40,000	140,000	180,000	7,800	31,200	39,000	.16
Excelsior wood	Cords	200,000	1,800,000	60,000	15,000	75,000	18,720	4,680	23,400	.09
Export logs and hewn timbers	M board feet	100,000	3,445,000	50,000	50,000	100,000	9,200	9,200	18,400	.07
Lath	Thousands	2,000,000	9,620,000							
Total			2,232,015,000	17,635,920	35,307,780	52,943,700	10,604,860	11,800,640	22,405,500	90.39
Destroyed by fire[2]	M cubic feet	1,080,000	10,000,000	500,000	1,750,000	2,250,000	330,000	750,000	1,080,000	4.36
Destroyed by insects, disease, and windfall	do	1,300,000	12,000,000	1,000,000	4,000,000	5,000,000	325,000	975,000	1,300,000	5.25
Grand total			2,254,015,000	19,135,920	41,057,780	60,193,700	11,259,860	13,525,640	24,785,500	100.00

Forest Service. Averages of recent years.

[1] Based on values of approximately 1919, milled products at the mill, fuel at point of production, all others at point of consumption except exports (declared valuation).

[2] These figures express mainly that part of the damage done by fire which can be readily stated in dollars, namely, the loss of merchantable timber. Other damages suffered are the loss of young growth and forage, the injury of trees, resulting in admitting the inroads of insects and disease, the deterioration of forest types resulting from the decrease of valuable species which are sensitive to fire, accelerated run-off followed by soil erosion and irregular stream flow, destruction of animals, fish, and birds, and the prevention of recreational uses. One of the most menacing features of the present forest situation is the lowered productivity of forest soils sometimes amounting to absolute sterility, which results from the action of fires.

TABLE 630.—*Pulp wood: Consumption, United States.*

Calendar year.	Grand total.	Total domestic.	Total imported.	Spruce.		Poplar.		Hemlock.	Pines.	Balsam fir.	All other	Slabs and mill waste.
				Domestic.	Imported.	Domestic.	Imported.					
	Cords.	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*	*Cords.*
1868	2,200											
1879	41,000											
1889	583,200											
1899	1,986,310	1,617,093	369,217	1,160,118	349,094	236,820	20,133	(1)	(1)	(1)	228,158	(1)
1904	3,050,712	2,477,099	573,618	1,732,531	538,305	213,058	35,313	(1)	(1)	(1)	531,516	(1)
1905	3,192,123	2,546,696	645,428	1,650,709	622,545	200,175	22,883	375,422	57,399	56,744	107,246	(1)
1906	3,661,176	2,922,304	738,872	1,786,680	721,322	310,929	17,550	528,381	69,277	33,886	194,160	(1)
1907	3,982,660	3,637,287	925,373	1,796,278	986,575	352,142	19,798	576,154	75,583	43,884	191,246	(1)
1908	3,346,953	2,651,817	695,136	1,487,356	672,488	279,564	22,653	569,173	84,189	45,309	186,226	(1)
1909	4,091,607	3,297,653	793,954	1,653,249	708,332	302,876	25,622	559,057	90,885	95,365	256,643	248,977
1910	4,084,309	3,146,540	947,766	1,473,542	902,497	315,717	45,359	610,478	105,882	132,362	245,922	202,537
1911	4,328,052	3,390,332	937,679	1,612,355	903,375	333,929	34,285	616,663	124,019	191,779	231,103	280,534
1914	4,470,763	3,641,065	829,700	1,892,739	768,056	328,513	61,644	602,754	141,359	125,296	294,515	253,887
1916	5,228,558	4,444,555	783,993	2,360,993	701,667	329,370	82,326	760,226	172,028	301,032	280,177	200,846
1917	5,490,075	4,706,327	773,748	2,385,966	681,456	313,955	92,298	775,003	221,038	382,036	394,347	233,992
1918	5,250,794	4,506,276	744,518	2,204,143	666,164	210,849	78,354	836,406	296,081	368,117	436,077	154,603
1919	5,477,832	4,445,817	1,032,015	2,313,419	873,795	180,160	158,220	795,154	293,610	288,814	390,579	175,081
1920	6,114,072	5,014,513	1,099,559	2,565,787	921,811	189,945	177,748	885,485	365,688	328,882	508,496	170,229
1921	4,567,179	3,740,406	816,773	1,813,782	701,131	131,038	115,642	863,943	282,375	226,726	356,445	67,017
1922	5,548,842	4,498,808	1,050,034	2,162,848	870,042	157,939	179,992	899,195	422,724	308,261	466,123	87,718

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

[1] No data available.
[2] Distributed according to species.

TABLE 631.—*Paper: Consumption, United States.*

Calendar year.	Total.	Newsprint.		Book.		Boards.		Wrapping.		Fine		All other.	
	Short tons.	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*
1810	[1] 5,000												
1819	[1] 12,000												
1829													
1839	[1] 39,000												
1849	[1] 78,000												
1859	[1] 127,000												
1869	391,000												
1879	457,000												
1889	1,121,000												
1899	2,158,000	569,000	26	314,000	15	394,000	18	535,000	25	113,000	5	233,000	11
1904	3,050,000	883,000	29	495,000	16	521,000	17	644,000	21	142,000	5	365,000	12
1909	4,224,000	1,159,000	27	689,000	16	882,000	21	793,000	19	193,000	5	537,000	13
1914	5,496,000	1,576,000	29	926,000	17	1,292,000	24	892,000	16	244,000	4	566,000	10
1917	6,256,000	1,824,000	29	846,000	14	1,805,000	29	814,000	13	276,000	4	691,000	11
1918	6,387,000	1,780,000	28	800,000	13	1,927,000	30	859,000	13	348,000	5	693,000	11
1919	6,493,000	1,892,000	29	838,000	13	1,940,000	30	825,000	13	306,000	5	692,000	10
1920	7,861,000	2,196,000	28	1,060,000	13	2,301,000	29	1,003,000	13	371,000	5	930,000	12
1921	6,054,000	2,062,000	33	707,000	12	1,641,000	27	770,000	13	230,000	4	704,000	12
1922	8,003,000	2,451,000	31	968,000	12	2,154,000	27	1,059,000	13	356,000	4	1,015,000	13

Forest Service.

[1] United States production.

TABLE 632.—*Lumber: Imports and exports, and pulpwood imports, 1907–1923.*

Calendar year.	Lumber.				Pulpwood.	
	Imports.		Exports.		Imports.	
	Boards, planks, deals, and other sawed lumber.		Boards, planks, and scantlings.		Quantity.	Value.
	Quantity.	Value.	Quantity.	Value.		
	M. feet.		*M. feet.*		*Cords.*	
1907	934, 195	$16, 255, 350	1, 658, 815	$39, 861, 352	827, 089	$4, 002, 795
1908	791, 288	15, 212, 788	1, 575, 462	35, 607, 503	810, 256	4, 098, 163
1909	846, 024	15, 946, 755	1, 379, 944	29, 056, 579	907, 963	5, 613, 710
1910	1, 053, 616	19, 332, 768	1, 710, 761	36, 774, 219	931, 731	6, 109, 574
1911	840, 137	14, 908, 160	2, 224, 422	47, 432, 849	889, 257	5, 682, 716
1912	1, 025, 802	17, 883, 048	2, 451, 076	55, 985, 732	933, 565	6, 227, 346
1913	969, 552	17, 616, 587	2, 592, 453	63, 961, 723	1, 034, 885	7, 007, 350
1914	910, 509	17, 166, 638	1, 789, 747	40, 734, 159	999, 049	6, 773, 198
1915	1, 047, 415	19, 550, 480	1, 127, 365	26, 653, 732	975, 974	6, 278, 948
1916	1, 210, 913	23, 427, 488	1, 094, 500	25. 518, 542	1, 097, 577	7, 202, 570
1917	1, 198, 388	27, 600, 247	1, 019, 647	33, 870, 202	1, 031, 934	8, 563, 458
1918	1, 206, 027	34, 100, 528	1, 023, 769	49, 177, 518	1, 370, 027	13, 362, 566
1919	1, 144, 187	36, 853, 988	1, 311, 210	64, 860, 806	1, 047, 299	10, 458, 753
1920	1, 338, 530	56, 639, 885	1, 851, 358	96, 380, 344	1, 241, 444	16. 902, 039
1921	836, 533	28, 793, 181	1, 204, 808	45, 699, 379	1, 061, 634	15, 387, 355
1922	1, 554, 075	45, 902, 649	1, 532, 913	57, 415, 062	1, 044, 816	11, 002, 636
1923	1, 959, 325	62, 205, 721	1, 752, 852	81, 057, 020	1, 351, 963	13, 446, 678

Forest Service. Compiled from reports of the Bureau of Foreign and Domestic Commerce. Pulpwood is stated in cords of 128 cubic feet. The earliest Government record of pulpwood commerce shows 322,758 cords imported in the last half of 1906. Reports of manufacturers, which are not comparable with the Government record, show foreign pulpwood, consumed in calendar years antedating this table, as follows: In 1899, 339,217 cords; in 1905, 645,428 cords; in 1906, 738,872 cords.

TABLE 633.—*Wood pulp: Imports, United States, 1889–1922.*

Calendar year.	Grand total.	Mechanical.	Total chemical.	Total sulphite.	Total sulphate.	Chemical unbleached.			Chemical bleached.		
						Unclassified.	Sulphite.	Sulphate.	Unclassified.	Sulphite.	Sulphate.
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
1889	26, 378										
1899	57, 335										
1904	179, 324										
1905	170, 867										
1906	199, 702										
1907	296, 778										
1908	[1] 250, 485	[2] 71, 217	[2] 78, 732			[2] 59, 670			[2] 19, 063		
1909	367, 650	142, 989	224, 661			161, 672			62, 989		
1910	506, 776	224, 184	282, 592			205, 745			76, 847		
1911	562, 424	232, 681	299, 743			213, 241			86, 502		
1912	540, 151	185, 804	354, 347			277, 201			77, 146		
1913	541, 455	167, 889	373, 566			296, 255			77, 311		
1914	675, 564	217, 256	458, 308			330, 270			128, 038		
1915	568, 379	174, 056	394, 323			221, 700			72, 623		
1916	683, 765	262, 517	421, 248			368, 302			52, 946		
1917	677, 841	279, 073	398, 768	269, 210	109, 558		248, 173	107, 933		41, 037	1, 625
1918	573, 209	185, 478	392, 731	270, 211	122, 520		253, 454	118, 761		16, 757	3, 759
1919	636, 016	202, 253	433, 763	282, 707	151, 056		239, 962	148, 911		42, 755	5, 145
1920	906, 297	233, 148	673, 149	473, 175	199, 974		344, 969	182, 697		128, 206	17, 277
1921	697, 100	190, 744	506, 356	328, 270	178, 086		283, 064	174, 004		95, 206	4, 082
1922	[3] 1, 258, 961	215, 811	[3] 1, 043, 150	712, 088	330, 337		473, 424	308, 564		238, 664	21, 773

Forest Service. Compiled from reports of Bureau of Foreign and Domestic Commerce.

[1] Includes 725 tons of soda, September–December only.
[2] July 1–December 31.
[3] Includes 100,535 tons of wood pulp, grade unclassified, imported January 1–June 30.

TABLE 634.—*Wood pulp and paper: Exports, United States.*[1]

Calendar year.	Total wood-pulp.	Total paper.	Printing.		Newsprint.		Book.		Fine.	Wrapping.		Boards.	All other.
	Short tons.	*Value.*	*Short tons.*	*Value.*	*Short tons.*	*Value.*	*Short tons.*	*Value.*	*Value.*	*Short tons.*	*Value.*	*Value.*	*Value.*
1870	.....	$478,547	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1875	.....	677,631	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880	.....	1,223,791	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1885	.....	1,088,516	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1890	.....	1,239,420	.....	.....	.....	.....	.....	.....	$119,451	.....	.....	.....	$1,119,969
1895	.....	2,412,763	.....	.....	.....	.....	.....	.....	112,231	.....	.....	.....	2,300,532
1900	24,940	7,038,014	57,948	$3,141,764	.....	.....	.....	.....	497,974	.....	.....	.....	3,398,276
1901	23,494	7,324,073	57,270	3,145,493	.....	.....	.....	.....	640,371	.....	.....	.....	3,538,209
1902	15,668	7,251,517	49,606	2,720,363	.....	.....	.....	.....	882,370	.....	.....	.....	3,648,784
1903	15,276	7,221,625	46,994	2,485,418	.....	.....	.....	.....	826,965	.....	.....	.....	3,909,242
1904	10,086	7,677,154	52,159	2,982,185	.....	.....	.....	.....	990,741	.....	.....	.....	3,704,228
1905	13,190	8,551,577	60,719	3,267,632	.....	.....	.....	.....	949,318	.....	.....	.....	4,334,627
1906	14,133	10,089,734	74,207	4,162,947	.....	.....	.....	.....	1,072,652	.....	.....	.....	4,854,135
1907	12,419	8,516,725	38,240	2,319,303	.....	.....	.....	.....	1,213,087	.....	.....	.....	4,984,335
1908	11,297	7,088,438	29,990	1,867,715	.....	.....	.....	.....	996,457	.....	.....	.....	4,224,266
1909	8,953	8,544,849	48,740	2,832,793	.....	.....	.....	.....	1,243,460	.....	.....	.....	4,468,596
1910	8,361	9,219,432	52,442	3,107,954	.....	.....	.....	.....	1,194,912	.....	.....	.....	4,916,566
1911	9,494	10,051,602	.....	.....	48,921	$2,357,455	13,215	$1,278,796	1,149,880	.....	.....	.....	5,265,471
1912	14,189	11,203,819	.....	.....	55,568	2,690,225	13,452	1,440,992	1,290,309	.....	.....	.....	5,782,293
1913	19,776	9,937,323	.....	.....	43,301	2,105,984	14,059	1,617,285	1,304,767	6,861	$560,535	.....	4,348,752
1914	12,337	10,117,139	.....	.....	60,789	2,983,344	15,130	1,568,960	1,096,615	7,408	522,951	.....	3,945,269
1915	20,294	12,964,767	.....	.....	55,161	2,707,626	22,329	2,169,067	1,201,254	18,496	1,667,387	$834,385	4,385,048
1916	40,023	27,501,127	.....	.....	76,736	4,126,617	62,073	8,069,812	2,490,055	41,837	4,025,388	1,924,105	6,865,150
1917	39,180	33,204,263	.....	.....	93,866	7,586,374	47,274	8,179,868	3,636,235	26,243	3,987,239	2,232,135	7,582,412
1918	22,324	39,714,978	.....	.....	96,739	7,978,296	49,610	8,710,940	6,113,498	29,950	4,828,856	3,055,255	9,028,133
1919	40,057	64,039,668	.....	.....	110,268	10,091,951	76,691	16,169,055	13,188,165	37,458	6,664,462	4,604,048	13,321,987
1920	32,133	58,793,979	.....	.....	45,889	5,970,127	47,558	13,776,464	8,908,230	30,632	6,994,381	5,553,094	17,591,683
1921	28,483	25,516,091	.....	.....	16,812	2,160,339	20,092	5,895,245	4,355,642	13,022	2,293,892	2,323,949	8,487,024
1922	24,500	24,152,567	.....	.....	25,825	2,352,557	17,231	3,608,976	1,780,344	22,367	3,220,695	3,489,665	9,700,300

Forest Service. Compiled from reports of Forest Service, and Bureau of Foreign and Domestic Commerce.

[1] Includes exports of domestic products only.

TABLE 635.—*Wood pulp: International trade, calendar years, 1909–1913, and 1920–1922.*

Country	Average 1909-1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Austria			11,839	55,850	22,876	68,069		
Austria-Hungary	13,366	205,364						
Canada	9,481	606,203	42,282	1,639,970	34,710	1,054,446	34,601	1,636,493
Finland	526	236,881	(1)	424,441	2	422,386		549,231
Germany	112,660	384,709	143,027	81,125	[2] 48,171	[2] 84,452	158,765	162,972
Norway	[3] 64,911	1,437,078	44,923	1,318,287	55,450	804,351		1,334,519
Sweden	9,515	1,822,023	24,494	2,220,331	8,153	1,166,330		2,583,954
Switzerland	21,059	13,072	20,544	27,180	7,840	21,300	12,601	25,003
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	52,016		34,123					
Belgium	291,254	80,647	258,458	34,572	144,929	10,855	258,140	7,369
Denmark	110,866		149,984		43,012		99,688	
France	836,899	1,720	794,080	668	385,666	1,101	861,194	119
Italy	179,267	485	157,002	269	86,022	2,748	197,253	1,128
Japan	79,260		104,849		87,527	2,558		
Netherlands			112,021	654	43,051	860	99,826	670
Portugal	18,662	4,141						
Russia	56,072	52,735						
Spain	92,770		115,363		52,091		144,379	
United Kingdom	1,891,006		2,446,535	112	1,315,227	688	2,068,020	
United States	1,007,239	24,309	1,812,595	63,932	1,394,201	56,965	2,517,921	49,000
Other countries	10,134	69,137	35,590	24	13,805	158	3,424	700
Total	4,856,963	4,938,507	6,339,509	5,867,415	3,742,733	3,697,267	6,455,812	6,351,158

Division of Statistical and Historical Research. All kinds of pulp from wood are included, but no pulp made from other fibrous substances.

[1] Less than 500 pounds.
[2] Eight months, May-December.
[3] Four-year average.

TABLE 636.—*Newsprint-paper: Imports, United States.*

Calendar year.	Total.	Country of origin.											
		Canada.[1]		Sweden.		Germany.		Finland.		Norway.		All other.	
	Short tons.	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*	*Short tons.*	*Per cent.*
1911	55,830	54,478	98	519	.....	42	.....	.....	.....	786	.....	5	.....
1912	85,593	84,652	99	337	.....	8	.....	.....	.....	596	.....	.....	.....
1913	219,844	218,794	100	258	.....	168	.....	.....	.....	624	.....	.....	.....
1914	315,475	310,397	99	963	.....	463	.....	.....	.....	3,565	.....	87	.....
1915	368,409	366,921	100	403	.....	30	.....	.....	.....	908	.....	147	.....
1916	468,230	468,070	100	11	.....	.....	.....	.....	.....	34	.....	115	.....
1917	559,113	557,803	100	56	.....	.....	.....	.....	.....	1,194	.....	.....	.....
1918	596,270	595,849	100	166	.....	.....	.....	.....	.....	.....	.....	255	.....
1919	627,734	627,687	100	.....	.....	.....	.....	.....	.....	.....	.....	47	.....
1920	729,869	679,309	93	18,875	3	21,066	3	3,244	.....	5,918	1	1,457	.....
1921	792,509	657,149	83	48,933	6	30,013	5	22,664	3	20,194	2	4,556	1
1922	1,029,268	896,312	87	51,812	5	32,837	3	26,205	2	17,293	2	4,809	1

Forest Service. Compiled from reports of Bureau of Foreign and Domestic Commerce.

[1] Includes Newfoundland and Labrador.

TABLE 637.—*Turpentine and rosin: Stocks, United States, March 31, 1919–1923.*

TURPENTINE.

Stocks.	1919	1920	1921	1922	1923
	Casks, 50 gal.	*Casks, 50 gal.*	*Casks, 50 gal.*	*Casks, 50 gal.*	*Casks, 50 gal.*
Stocks at stills	24,050	28,394	30,429	20,732	12,194
Stocks at wood distillation plants	1,965	2,000	5,000	2,850	5,994
Stocks at primary southern ports	122,853	34,519	60,916	24,699	21,040
Stocks at eastern ports and distributing points	1,513	2,303	2,258	1,675	2,652
Stocks at central distributing points	5,771	14,558	12,304	8,195	10,881
Stocks at western ports and distributing points	2,751	2,634	948	900	2,225
Stocks at plants of consuming industries	28,500	26,340	30,528	26,717	16,670
Total	187,403	110,808	140,343	85,168	71,656

ROSIN.

Stocks.	1919	1920	1921	1922	1923
	Barrels, 500 lbs.	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*
Stocks at stills	130,035	138,535	327,055	499,797	474,839
Stocks at wood distillation plants	12,304	23,000	40,000	19,143	25,063
Stocks at primary southern ports	326,933	211,238	432,237	347,730	278,414
Stocks at eastern ports and distributing points	81,440	23,417	11,063	11,359	8,078
Stocks at central distributing points	22,608	28,514	35,567	49,043	46,938
Stocks at western ports and distributing points	1,743	777	275	6,447	1,340
Stocks at plants of consuming industries	203,000	290,045	217,302	263,488	297,843
Total	778,063	715,526	1,063,499	1,199,007	1,132,505

Bureau of Chemistry. Compiled from reports of Bureau of Chemistry and Bureau of the Census.

TABLE 638.—*Turpentine (spirits): International trade, calendar years, 1909–1913, and 1920–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*
France	48	2,594	85	3,659	16	3,006	21	2,783
Greece	2	568	----	324	----	254	----	283
Russia	273	2,322	----	----	----	----	----	----
Spain	----	1,156	----	944	----	1,439	6	1,297
Sweden	134	62	112	271	122	275	118	270
United States	----	17,868	----	9,458	----	9,268	----	9,369
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	554	----	573	----	----	----	----	----
Australia	564	----	538	3	527	(1)	----	----
Austria	----	----	19	14	205	27	----	----
Austria-Hungary	2,581	53	----	----	----	----	----	----
Belgium	1,932	1,144	1,580	1,558	2,418	1,610	950	174
Brazil	[2] 311	----	510	----	188	----	----	----
Canada	1,175	----	962	----	1,088	----	1,267	1
Chile	198	----	267	----	67	----	----	----
Czechoslovakia	----	----	----	----	418	----	1,742	----
Germany	9,868	460	1,252	18	[2] 2,433	[2] 82	2,936	127
Italy	940	3	749	5	868	11	852	16
Netherlands	3,998	2,750	947	12	1,159	11	1,225	34
New Zealand	178	----	93	----	69	----	226	----
Switzerland	466	9	550	----	522	----	571	----
United Kingdom	7,782	----	6,752	236	4,281	158	6,079	----
Other countries	696	154	1,082	161	696	294	515	24
Total	31,200	28,943	16,071	16,661	15,039	16,345	15,608	14,388

Division of Statistical and Historical Research. "Spirits of turpentine" includes only "spirits" or "oil" of turpentine and, for Russia, skipidar; it excludes crude turpentine, pitch, and, for Russia, turpentine.

[1] Less than 500 gallons. [2] Four-year average. [3] Eight months, May–December.

TABLE 639.—*Turpentine and rosin: Production in the United States, 1910–1922.*

Year beginning Apr. 1—	Turpentine.			Rosin.		
	Gum.	Wood.	Total.	Gum.	Wood.	Total.
	Gallons.	*Gallons.*	*Gallons.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*
1910–11 [1]	29,750,000	1,250,000	31,000,000	2,970,000	14,000	1,984,000
1911–12 [1]	31,900,000	1,000,000	32,900,000	2,125,000	16,000	2,141,000
1912–13 [1]	34,000,000	1,000,000	35,000,000	2,267,000	20,000	2,287,000
1913–14 [1]	32,000,000	800,000	32,800,000	2,132,000	24,000	2,156,000
1914–15 [2]	27,000,000	576,000	27,576,000	1,706,000	29,000	1,735,000
1915–16 [1]	23,500,000	700,000	24,200,000	1,565,000	40,000	1,605,000
1916–17 [1]	26,750,000	1,000,000	27,750,000	1,782,000	80,000	1,862,000
1917–18 [1]	23,700,000	1,200,000	24,900,000	1,531,000	100,000	1,631,000
1918–19 [3]	17,050,000	1,600,000	18,650,000	1,116,000	123,000	1,238,000
1919–20 [3]	18,300,000	1,500,000	19,800,000	1,237,000	158,000	1,395,000
1920–21 [3]	24,450,000	1,750,000	26,200,000	1,577,000	180,000	1,757,000
1921–22 [4]	24,329,000	442,000	24,771,000	1,662,000	53,000	1,715,000
1922–23 [4]	22,395,000	1,859,000	23,254,000	1,500,000	152,000	1,652,000

Bureau of Chemistry.

[1] Trade estimates.
[2] Bureau of Chemistry estimates.
[3] Statistics compiled by Bureau of Chemistry.
[4] Statistics compiled by Bureau of the Census.

TABLE 640.—*Rosin: International trade, calendar years, 1909–1913, and 1920–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
China				6,645		5,458		2,179
France	2,432	118,286	1,634	129,007	456	164,913	949	128,106
Greece	35	10,423		10,303		6,072		9,359
Spain	1,827	20,073	617	26,855	990	22,416	290	24,213
United States		655,520		326,012		280,432		399,587
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	32,719	[1] 45	43,577	45				
Australia	13,724	1,255						
Austria			2,183	689	8,014	723		
Austria-Hungary	75,705	2,205						
Belgium	47,163	32,830	82,856	46,822	106,840	47,304	31,252	13,711
Brazil	36,905		36,456		16,628			
British India	6,171		3,936		1,073		2,030	
Canada	25,506		28,763		20,905		27,210	
Chile	7,410		4,313		1,550			
Cuba	4,123		3,571					
Czechoslovakia					14,344		14,871	
Denmark	3,236		2,575	24	2,071	2	4,127	
Dutch East Indies	15,039		22,262		16,658		[2] 16,093	
Finland	6,027	144	3,682	67	429	163	5,756	872
Germany	233,100	50,110	49,255	514	[3] 76,503	[3] 1,216	92,180	1,105
Italy	24,171	33	36,134	315	55,280	419	41,637	170
Japan	10,073		36,686		18,019			
Netherlands	73,991	59,366	9,618	64	7,416	182	9,952	75
Norway	6,732		5,411	23	1,188	(4)	4,499	
Rumania	5,004	[4] 1	3,068					
Russia	68,429							
Sweden	3,896	12	12,698	192	5,039	22	11,519	
Switzerland	4,983	[4] 8	4,302		3,077	5	4,993	5
United Kingdom	166,075		124,308		85,260		136,915	
Other countries	15,965	70	10,655	517	7,131	6	5,352	161
Total	900,441	950,381	538,620	548,094	445,924	529,333	409,615	579,603

Division of Statistical and Historical Research. For rosin only the resinous substance known as "rosin" in the exports of the United States is taken.

[1] Four-year average.
[2] Java and Madura only.
[3] Eight months, May–December.
[4] Less than 500 pounds.
[5] One year only.
[6] Three-year average.

TABLE 641.—*Rubber: International trade, calendar years, 1909–1913, and 1920–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Angola	----------	5,620	----------	[1] 1,640	----------	[1] 491	----------	[1] 259
Belgian Congo	----------	7,755	----------	2,473	----------	[1] 1,746	----------	----------
Bolivia	----------	8,395	----------	8,288	----------	[1] 4,802	----------	----------
Brazil	----------	84,938	[1] 93	51,896	[1] 54	38,217	----------	48,772
British India	----------	[2] 1,504	2	14,285	8	11,883	1	10,875
British Malaya	[1] 53,472	[1] 85,435	224,085	778,286	306,202	415,350	304,192	479,324
Ceylon	[2] 1,299	10,953	4,465	88,553	3,867	88,125	5,475	104,595
Dutch East Indies	[2] 1	7,679	11	199,908	----------	164,045	----------	[4] 70,607
Ecuador	----------	1,040	----------	----------	----------	----------	----------	----------
French Congo	(5)	3,797	----------	[1] 4,680	----------	[1] 3,160	----------	[1] 1,536
French Guinea	[1] 241	3,937	[1] 1	[1] 1,521	[1] 1	[1] 577	----------	[1] 666
French Indo-China	1	398	----------	6,927	----------	[1] 8,043	----------	[1] 10,192
Gold Coast	----------	2,393	----------	[1] 299	----------	[1] 103	----------	[1] 16
Kamerun	----------	6,409	----------	[1] 1,268	----------	[1] 1,553	----------	[1] 1,236
Malacca	[1] 164	[1] 3,279	10,543	13,853	[1] 8,121	[1] 56,643	[1] 12,520	[1] 74,890
Mexico	----------	14,262	----------	----------	----------	----------	----------	----------
Nigeria	----------	3,054	----------	[1] 1,129	----------	[1] 237	----------	----------
Peru	----------	5,030	----------	3,258	----------	335	----------	3,299
Senegal	[6] 4	1,087	----------	[1] 87	----------	[1] 42	----------	[1] 21
Venezuela	----------	772	132	388	48	50	----------	----------
PRINCIPAL IMPORTING COUNTRIES.								
Austria	----------	----------	3,090	[1] 71	4,927	[1] 227	[1] 4,757	[1] 293
Austria-Hungary	6,696	1,619	----------	----------	----------	----------	----------	----------
Belgium	25,891	20,749	14,120	5,519	7,140	3,321	5,313	4,856
Canada	3,945	----------	26,682	(5)	18,476	----------	20,980	----------
Denmark	250	----------	1,074	----------	563	----------	300	----------
France	32,704	21,615	60,042	23,588	41,664	7,762	67,893	5,907
Germany	42,004	9,844	26,918	254	[1] 49,378	[7] 277	63,483	1,779
Hungary	----------	----------	[1] 353	----------	[1] 860	----------	[1] 744	[1] 3
Italy	5,381	225	15,000	1,284	9,745	997	14,435	32
Japan	1,917	----------	13,581	----------	51,888	----------	[1] 36,847	----------
Netherlands	10,822	7,172	27,206	14,954	32,657	30,369	19,628	28,153
Russia	19,131	----------	[1] 1,128	----------	[1] 397	----------	[1] 5,345	----------
Spain	1,067	----------	9,202	----------	7,968	----------	5,103	----------
Sweden	1,695	1	3,372	215	1,800	99	2,795	135
Switzerland	391	725	425	1,048	431	355	450	219
United Kingdom	43,141	----------	127,332	----------	94,275	----------	24,870	----------
United States	100,180	----------	566,546	----------	415,283	----------	674,410	----------
Other countries	5,799	58,091	4,457	117,623	1,809	21,693	3,319	1,410
Total	356,196	377,778	1,139,950	1,343,295	1,057,562	860,502	1,362,860	844,096

Division of Statistical and Historical Research. Figures for rubber include "India rubber", so called, and caoutchouc, cancho, jebe (Peru), hule (Mexico), borracha, assaranduba, amabeira, manicoba, sorva, and seringa (Brazil), gomelastiek (Dutch East Indies), caura, ser nambi (Venezuela). Official sources except where otherwise noted.

[1] International Institute of Agriculture.
[2] Three-year average.
[3] One year only.
[4] Java and Madura only.
[5] Less than 500 pounds.
[6] Two-year average.
[7] Eight months, May–December.

TABLE 642.—*Lumber: Average value at the mill per M feet, board measure, by kinds of wood, for specified calendar years.*

Kind of wood.	1899	1904	1907	1909	1910	1911	1915	1916	1917	1918	1919	1920	1921	1922
SOFTWOODS.														
Balsam fir	(1)	(1)	$16.16	$13.99	$14.48	$13.42	$13.79	$16.49	$20.02	$27.27	$32.23	$34.33	$25.71	$25.05
Cedar	$10.91	$14.35	19.14	19.95	15.53	13.36	16.10	15.24	19.40	24.86	33.80	38.68	38.55	29.19
Cypress	13.32	17.50	22.12	20.46	20.51	20.54	19.85	20.85	23.02	30.56	38.38	51.02	36.88	40.05
Douglas fir	8.67	9.51	14.12	12.44	13.09	11.05	10.59	10.78	16.28	18.77	24.62	34.59	18.04	20.93
Hemlock	9.98	11.91	15.53	13.95	13.85	13.59	13.14	15.35	20.78	23.97	29.16	32.05	20.79	21.83
Larch (tamarack)	8.73	11.39	13.99	12.68	12.33	11.87	10.78	12.49	16.21	19.86	23.39	30.28	15.56	18.54
Lodgepole pine	(1)	(1)	(1)	16.25	14.88	12.41	13.57	15.13	18.34	20.95	29.98	30.58	21.81	19.07
Redwood	10.12	12.83	17.70	14.80	15.52	13.99	13.54	13.93	21.00	24.30	30.04	46.90	40.57	35.72
Spruce	11.27	14.03	17.26	16.91	16.62	16.14	16.58	17.58	24.41	28.65	30.76	38.94	25.73	25.47
Sugar pine	12.30	(1)	19.84	18.14	18.68	17.52	17.40	16.77	24.69	28.26	35.99	48.76	37.83	43.78
Yellow pine	8.46	9.96	14.02	12.69	13.29	13.87	12.41	14.33	19.00	24.38	28.71	35.89	19.42	23.66
Western yellow pine	9.70	11.30	15.67	15.39	14.25	13.62	14.32	14.52	19.59	20.87	27.75	38.73	26.95	27.75
White fir	(1)	(1)	15.54	13.10	11.52	10.64	10.94	12.25	17.16	19.61	25.66	30.44	21.37	19.97
White pine	12.69	14.93	19.41	18.16	18.93	18.54	17.44	19.16	24.81	30.84	32.83	41.49	30.03	36.37

[1] No data.

TABLE 642.—*Lumber: Average value at the mill per M feet, board measure, by kinds of wood; for specified calendar years*—Continued.

Kind of Wood.	1899	1904	1907	1909	1910	1911	1915	1916	1917	1918	1919	1920	1921	1922
HARDWOODS.														
Ash	15.84	18.77	25.01	24.44	22.47	21.21	22.15	23.85	30.01	38.70	52.69	61.28	38.18	42.43
Basswood	12.84	16.86	20.03	19.50	20.94	19.20	18.89	21.05	25.96	34.00	40.03	54.28	33.00	35.67
Beech	(1)	(1)	14.30	13.25	14.34	14.09	14.01	16.20	19.58	25.06	29.98	36.51	26.99	26.84
Birch	12.50	15.44	17.37	16.95	17.37	16.61	16.52	19.59	24.07	29.94	35.79	53.44	31.53	35.84
Chestnut	13.37	13.78	17.04	16.12	16.23	16.63	16.17	17.05	21.54	27.31	32.30	42.48	27.87	29.29
Cottonwood	10.37	14.92	18.42	18.05	17.78	18.12	17.36	17.42	23.19	26.13	32.24	33.38	25.05	26.95
Elm	11.47	14.45	18.45	17.52	18.67	17.13	16.98	19.46	23.89	28.19	36.39	47.23	29.63	33.28
Gum, red and sap	9.63	10.87	14.10	13.20	12.26	12.11	12.54	14.64	19.56	23.21	32.68	35.24	22.46	27.07
Hickory	18.78	23.94	29.50	30.80	26.55	22.47	23.35	23.84	29.48	37.95	44.37	52.57	36.60	36.20
Maple	11.83	14.94	16.84	15.77	18.16	15.49	15.21	18.24	23.16	29.05	35.56	50.16	30.34	33.52
Oak	13.78	17.51	21.23	20.50	18.76	19.14	18.73	20.06	24.49	31.11	37.87	46.88	30.56	34.01
Sycamore	11.04	(1)	14.58	14.87	14.10	13.16	13.86	14.65	18.68	23.59	30.32	32.12	22.55	25.29
Tupelo	(1)	(1)	14.48	11.87	12.14	12.46	12.25	13.00	18.06	22.73	28.42	33.68	18.59	22.80
Yellow poplar	14.03	18.99	24.91	25.39	24.71	25.46	22.45	21.89	27.17	35.06	41.65	58.87	37.31	39.18
Walnut	36.49	45.64	43.31	43.79	34.91	31.70	48.37	42.38	72.99	77.60	72.13	88.92	88.83	80.06
All kinds	11.13	12.76	16.59	15.38	15.30	15.05	14.04	15.32	20.32	24.79	30.21	38.42	23.47	26.15

Forest Service and Bureau of the Census.

[1] No data.

TABLE 643.—*Lumber prices per M feet, in eastern markets of the United States, 1840–1922.*

Calendar year.	First quality, 1 inch.		Average quality, 1 inch.		Calendar year	First quality, 1 inch.		Average quality, 1 inch.	
	Soft-woods.	Hard-woods.	Soft-woods.	Hard-woods.		Soft-woods.	Hard-woods.	Soft-woods.	Hard-woods.
1840	$20.91		$10.50		1880	$38.41	$31.62	$14.00	
1841	26.21		10.50		1881	38.51	31.62	16.50	
1842	26.21		10.00		1882	39.93	31.49	18.00	
1843	21.35		10.50		1883	42.88	31.41	15.00	
1844	22.01		10.50		1884	41.80	31.41	16.50	
1845	21.46		10.50		1885	41.51	31.46	17.00	
1846	23.37		11.00		1886	39.47	32.13	17.00	
1847	23.01		11.00		1887	36.96	32.75	18.00	
1848	25.10		11.00		1888	34.53	33.85	16.88	$29.29
1849	21.22		11.00		1889	33.83	33.93	15.88	28.86
1850	24.35		10.50		1890	34.48	33.07	16.40	
1851	24.08		11.00		1891	32.43	33.11	16.00	
1852	24.28		11.00		1892			18.50	
1853	25.82		11.00		1893	29.32	32.86	17.45	24.80
1854	27.02		11.50		1894	30.56	36.10	17.43	24.80
1855	26.15	$11.03	11.00		1895	29.39	34.52	16.55	24.76
1856	27.67	11.77	10.00		1896	28.77	34.51	16.54	24.76
1857	29.80	11.87	11.00		1897	28.75	34.51	17.09	24.76
1858	30.37	11.87	11.00		1898	28.68	24.26	16.23	21.76
1859	22.38	11.97	11.00		1899	30.06	35.72	16.01	24.69
1860	24.45	12.21	11.50		1900	34.06	39.29	21.50	27.57
1861	24.32	21.60	12.00		1901	33.98	37.06	21.32	29.32
1862	23.76	26.25	13.18		1902				
1863	20.55	20.01	12.41		1903	41.93	46.43	20.40	31.75
1864	27.73	23.18	12.86		1904	39.09	46.07	21.20	33.72
1865	20.43	13.57	9.25		1905	42.59	41.97	22.06	31.80
1866	41.32	20.94	14.28		1906	44.65	44.47	24.99	34.06
1867	43.25	21.52	12.63		1907	45.32	47.79	27.87	36.94
1868	34.58	20.92	11.55		1908	44.11	50.92	27.14	38.12
1869	34.35	21.36	12.54		1909	42.10	47.16	25.44	34.72
1870	37.70	24.89	14.01		1910	43.50	49.17	24.60	35.61
1871	35.90	27.81	18.09		1911	45.06	50.59	24.52	35.45
1872	41.56	28.93	18.33		1912	44.53	51.44	25.29	35.73
1873	41.92	28.00	19.52		1913	44.92	53.99	27.88	38.01
1874	40.16	27.91	17.95		1914	42.76	54.94	25.19	38.23
1875	39.93	27.64	13.33		1915	41.89	52.94	24.68	35.49
1876	32.85	27.56	13.30		1916	41.53	54.59	26.86	37.64
1877	34.29	29.30	13.18		1917	42.60	56.00	29.09	38.92
1878	33.28	30.87	13.81		1918	51.45	66.65	39.90	46.42
1879	34.11	31.40	14.00		1919	61.58	72.62	44.42	55.54
					1920	131.55	178.82	73.26	123.80
					1921	85.17	140.26	58.98	94.89
					1922	72.45	120.21	53.13	70.12

Forest Service. Reports of actual sales.

TABLE 644.—*Lumber: Average prices per M. feet, f. o. b. mill, Douglas fir and southern yellow pine, 1913–1923.*

Year.	Douglas fir.		Yellow pine.	
	Price.	Index (1913–100).	Price.	Index (1913–100).
1913	$11.44	100.0	$14.77	100.0
1914	10.58	92.5	13.68	92.6
1915	9.80	85.5	13.02	88.2
1916	11.63	101.7	16.12	109.2
1917	16.93	147.9	21.13	143.1
1918	21.21	186.3	26.45	179.1
1919	25.83	225.9	33.94	229.8
1920	36.78	323.3	44.74	302.9
1921	19.98	174.7	21.18	143.4
1922	23.90	208.9	26.44	179.0
1923	28.93	252.9	30.81	208.6
1920.				
January	41.98	366.0	52.21	353.5
February	46.31	404.8	57.94	392.3
March	46.66	407.0	61.60	417.1
April	43.15	377.1	57.53	389.5
May	40.21	351.2	54.65	370.0
June	36.05	315.1	40.05	271.2
July	33.09	294.5	41.34	279.9
August	32.86	287.2	43.42	294.0
September	31.29	273.4	41.09	278.2
October	27.57	241.0	34.44	233.2
November	24.05	210.0	26.67	180.6
December	22.61	197.6	25.88	175.2
1921.				
January	20.20	177.6	21.35	144.6
February	18.85	164.7	21.18	143.4
March	17.59	153.2	20.92	141.7
April	16.87	147.3	20.36	137.9
May	16.42	143.2	20.82	140.9
June	15.90	143.5	22.32	151.1
July	15.28	133.4	20.75	140.5
1921—Con.				
August	$14.98	130.8	$20.40	138.1
September	14.86	129.8	20.61	139.5
October	15.97	139.6	21.59	146.2
November	17.07	149.2	23.14	156.7
December	17.75	155.1	21.77	147.4
1922.				
January	18.73	163.7	22.68	153.6
February	22.75	198.9	22.61	153.1
March	22.40	195.8	22.27	151.5
April	20.44	178.7	22.78	154.2
May	21.10	184.4	24.85	168.2
June	23.24	203.1	29.07	196.8
July	24.18	211.3	27.19	184.9
August	24.83	217.0	28.47	192.8
September	27.13	237.2	31.24	211.5
October	27.97	244.5	31.71	214.7
November	25.82	225.7	30.61	207.2
December	26.49	231.6	30.61	207.2
1923.				
January	28.54	249.5	30.42	205.9
February	29.42	257.2	32.81	222.1
March	30.22	264.2	33.71	228.2
April	31.46	275.0	33.38	226.0
May	31.02	271.2	33.85	229.2
June	30.36	265.4	32.40	219.4
July	27.68	241.9	31.14	210.8
August	26.97	235.7	30.82	208.6
September	27.18	237.5	27.53	186.4
October	27.24	238.1	28.77	194.7
November	28.97	253.2	27.83	188.4
December	26.94	235.5	26.56	179.8

Forest Service. Reports of actual sales.

TABLE 645.—*Wood pulp, sulphite, domestic, unbleached: Average wholesale price per 100 pounds, New York, 1914–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Average.
1914	$2.125	$2.100	$2.050	$2.050	$2.050	$2.075	$2.075	$2.000	$2.375	$2.325	$2.325	$2.325	$2.156
1915	2.125	2.050	2.150	2.100	2.100	2.100	2.075	2.075	2.075	2.075	2.150	2.350	2.119
1916	2.575	2.575	2.850	3.150	3.625	3.625	3.625	3.875	4.250	5.125	5.125	5.375	3.815
1917	5.375	5.525	5.400	5.475	5.475	5.475	4.975	4.975	5.375	3.675	3.225	2.800	4.812
1918	2.800	2.800	2.913	3.285	3.594	4.250	4.250	4.325	4.638	4.975	4.500	3.975	3.859
1919	3.688	3.500	3.500	3.400	3.375	3.375	3.375	3.563	3.625	3.625	3.625	3.625	3.523
1920	3.625	3.625	3.825	5.719	6.938	7.400	8.250	8.250	8.250	8.125	7.750	6.969	6.560
Av. 1914–1920	3.188	3.168	3.241	3.597	3.880	4.043	4.089	4.152	4.370	4.275	4.100	3.917	3.835
1921	6.000	4.656	4.075	3.344	3.875	3.625	3.438	2.625	2.625	2.625	2.625	2.625	3.512
1922	2.545	2.525	2.525	2.525	2.525	2.525	2.526	2.525	2.538	2.635	2.675	2.675	2.562
1923	2.675	2.675	2.731	2.888	3.155	3.225	3.225	3.200	3.113	3.105	2.913	2.706	2.968

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 646.—*Rubber, Para Island, fine: Average wholesale price per pound, New York, 1890–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1890	$0.725	$0.680	$0.795	$0.845	$0.885	$0.930	$0.910	$0.915	$0.965	$0.850	$0.805	$0.750	$0.838
1891	.780	.890	.885	.930	.900	.885	.855	.810	.615	.645	.640	.655	.791
1892	.635	.645	.680	.735	.685	.690	.700	.675	.635	.680	.670	.685	.676
1893	.685	.790	.755	.760	.755	.740	.725	.655	.660	.705	.680	.690	.717
1894	.688	.660	.670	.670	.655	.655	.670	.650	.680	.685	.705	.705	.674
1895	.740	.735	.725	.730	.720	.750	.730	.715	.730	.765	.815	.755	.742
1896	.750	.710	.740	.750	.820	.880	.835	.830	.800	.825	.828	.832	.800
1897	.820	.820	.830	.825	.855	.840	.840	.855	.885	.870	.870	.835	.845
1898	.815	.862	.930	.930	.922	.930	.960	1.012	1.000	.932	.920	.910	.927
1899	.942	1.005	1.015	1.018	1.015	.992	.972	.972	.965	.982	.990	1.075	.995
1900	1.062	1.068	1.045	1.075	1.065	.880	.925	.915	.960	.985	.925	.875	.982
1901	.875	.850	.845	.840	.890	.870	.855	.835	.880	.850	.800	.805	.850
1902	.805	.760	.725	.715	.715	.708	.705	.678	.730	.728	.732	.728	.727
1903	.865	.835	.895	.875	.895	.860	.885	.905	.965	1.015	.995	.915	.905
1904	.915	.985	1.025	1.090	1.085	1.095	1.085	1.155	1.135	1.095	1.125	1.265	1.088
1905	1.125	1.215	1.255	1.280	1.285	1.325	1.275	1.245	1.265	1.255	1.180	1.205	1.242
1906	1.255	1.235	1.235	1.245	1.235	1.220	1.190	1.180	1.190	1.190	1.195	1.189	1.213
1907	1.180	1.185	1.185	1.150	1.140	1.090	1.045	1.065	1.030	.995	.915	.780	1.063
1908	.765	.712	.695	.752	.805	.375	.885	.855	.905	.965	1.050	1.185	.871
1909	1.155	1.155	1.215	1.185	1.232	1.335	1.430	1.845	1.710	1.985	1.810	1.715	1.481
1910	1.695	1.790	1.995	2.600	2.600	2.295	2.250	2.070	1.800	1.370	1.190	1.235	1.908
1911	1.150	1.180	1.580	1.360	1.130	.940	.925	1.040	1.080	1.050	.940	.950	1.110
1912	.975	1.060	1.085	1.145	1.100	1.045	1.010	1.045	1.135	1.065	.975	.980	1.052
1913	1.005	.975	.915	.835	.780	.835	.815	.730	.760	.715	.675	.645	.807
Av. 1909-1913	1.196	1.232	1.358	1.423	1.368	1.290	1.286	1.340	1.297	1.237	1.118	1.105	1.272
1914	.605	.655	.605	.695	.725	.610	.575	.580	.600	.525	.495	.630	.616
1915	.710	.550	.535	.535	.545	.545	.535	.522	.500	.508	.548	.655	.557
1916	.885	.685	.705	.695	.660	.590	.590	.585	.582	.665	.670	.720	.669
1917	.700	.680	.750	.740	.725	.725	.705	.613	.595	.568	.505	.468	.648
1918	.501	.479	.483	.516	.566	.590	.590	.590	.590	.572	.570	.548	.550
1919	.525	.491	.482	.478	.474	.474	.475	.475	.480	.483	.483	.479	.483
1920	.463	.432	.412	.411	.404	.385	.353	.303	.253	.217	.192	.180	.334
Av. 1914-1920	.627	.567	.580	.581	.586	.560	.546	.524	.514	.505	.495	.526	.551
1921	.173	.168	.180	.178	.179	.164	.164	.165	.174	.210	.215	.211	.182
1922	.193	.163	.161	.171	.176	.169	.172	.176	.171	.196	.219	.223	.182
1923	.272	.307	.290	.274	.249	.250	.239	.238	.246	.215	.204	.203	.249

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 647.—*Turpentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890-1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1890	$0.449	$0.435	$0.425	$0.400	$0.382	$0.378	$0.405	$0.415	$0.405	$0.410	$0.400	$0.392	$0.408
1891	.405	.408	.403	.405	.390	.382	.372	.361	.370	.368	.355	.335	.380
1892	.340	.345	.420	.370	.340	.290	.295	.285	.278	.285	.310	.315	.323
1893	.305	.332	.345	.325	.310	.288	.290	.262	.275	.280	.295	.295	.300
1894	.292	.309	.312	.288	.296	.305	.295	.289	.285	.285	.285	.278	.293
1895	.271	.290	.335	.335	.305	.295	.290	.270	.275	.282	.281	.278	.292
1896	.305	.300	.292	.285	.289	.260	.252	.240	.240	.280	.280	.268	.274
1897	.266	.275	.298	.292	.305	.268	.265	.232	.298	.325	.310	.325	.292
1898	.332	.340	.356	.325	.339	.282	.262	.265	.295	.308	.370	.390	.322
1899	.452	.455	.465	.425	.445	.405	.445	.385	.475	.520	.510	.515	.458
1900	.525	.545	.550	.560	.505	.495	.465	.445	.365	.405	.440	.425	.477
1901	.380	.405	.410	.365	.345	.355	.370	.355	.365	.365	385	.375	.373
1902	.390	.442	.440	.485	.455	.480	.475	.460	.475	.505	.545	.535	.474
1903	.555	.656	.658	.672	.480	.490	.495	.525	.550	.585	.600	.593	.572
1904	.598	.645	.625	.590	.580	.574	.565	.598	.560	.560	.545	.560	.576
1905	.530	.560	.539	.610	.605	.778	.600	.608	.645	.602	.715	.650	.628
1906	.685	.682	.719	.708	.675	.610	.606	.600	.640	.652	.701	.700	.665
1907	.710	.740	.755	.730	.675	.640	.610	.590	.582	.550	.540	.490	.694
1908	.435	.555	.535	.565	.475	.435	.420	.410	.390	.390	.400	.430	.453

TABLE 647.—*Turpentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890–1923*—Continued.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1909	$0.415	$0.450	$0.425	$0.405	$0.402	$0.425	$0.462	$0.518	$0.595	$0.620	$0.602	$0.570	$0.491
1910	.592	.632	.630	.630	.625	.592	.672	.715	.745	.765	.810	.785	.683
1911	.808	.872	.912	1.070	.772	.568	.560	.525	.548	.535	.492	.484	.679
1912	.540	.495	.500	.505	.530	.480	.479	.462	.425	.428	.420	.380	.470
1913	.425	.452	.455	.458	.408	.405	.398	.382	.422	.415	.452	.462	.428
Av. 1909–1913	.556	.580	.584	.614	.547	.494	.514	.520	.547	.553	.555	.536	.550
1914	.458	.510	.480	.488	.460	.472	.493	.480	.422	.478	.458	.477	.473
1915	.452	.445	.450	.472	.488	.435	.430	.420	.398	.415	.538	.570	.459
1916	.572	.578	.530	.552	.410	.435	.415	.408	.465	.462	.480	.525	.491
1917	.550	.540	.513	.488	.520	.448	.420	.428	.423	.485	.535	.505	.488
1918	.490	.474	.439	.426	.507	.636	.700	.622	.661	.658	.798	.716	.594
1919	.755	.709	.720	.773	.831	1.005	1.176	1.724	1.683	1.600	1.689	1.656	1.201
1920	1.885	1.985	2.238	2.575	2.475	1.868	1.599	1.024	1.473	1.230	1.098	.790	1.737
Av. 1914–1920	.737	.749	.767	.825	.813	.770	.748	.824	.789	.761	.799	.718	.778
1921	.724	.609	.584	.591	.717	.604	.613	.633	.718	.755	.810	.814	.681
1922	.909	.903	.869	.866	.944	1.110	1.207	1.194	1.298	1.530	1.578	1.403	1.151
1923	1.522	1.493	1.548	1.524	1.167	1.046	.943	.951	.971	1.007	.954	.938	1.172

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 648.—*Rosin, common to good, strained: Average wholesale price per barrel, New York, 1890–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1890	$1.250	$1.200	$1.200	$1.225	$1.450	$1.450	$1.488	$1.450	$1.450	$1.450	$1.488	$1.512	$1.384
1891	1.438	1.450	1.500	1.612	1.700	1.600	1.412	1.400	1.400	1.400	1.375	1.400	1.474
1892	1.425	1.400	1.350	1.388	1.475	1.325	1.250	1.275	1.262	1.250	1.350	1.350	1.342
1893	1.325	1.425	1.475	1.375	1.300	1.275	1.225	1.013	1.000	1.175	1.213	1.338	1.262
1894	1.275	1.088	1.088	1.175	1.200	1.350	1.388	1.238	1.162	1.238	1.438	1.375	1.251
1895	1.413	1.400	1.450	1.600	1.525	1.650	1.600	1.575	1.550	1.500	1.700	1.775	1.562
1896	1.700	1.625	1.675	1.762	2.025	1.800	1.688	1.600	1.600	1.700	1.925	1.850	1.746
1897	1.750	1.700	1.700	1.650	1.650	1.750	1.750	1.550	1.500	1.450	1.450	1.450	1.612
1898	1.450	1.450	1.450	1.450	1.450	1.450	1.450	1.350	1.300	1.300	1.500	1.450	1.421
1899	1.400	1.350	1.312	1.312	1.462	1.400	1.300	1.300	1.300	1.262	1.325	1.425	1.346
1900	1.638	1.638	1.750	1.700	1.600	1.588	1,562	1.550	1.525	1.475	1.500	1.700	1.602
1901	1.750	1.650	1.625	1.500	1.600	1.550	1.438	1.400	1.400	1.425	1.450	1.575	1.530
1902	1.550	1.550	1.550	1.662	1.638	1.588	1.575	1.575	1.550	1.550	1.788	1.775	1.613
1903	1.925	2.100	2.275	2.300	2.125	2.075	2.062	1.975	2.100	2.300	2.775	2.575	2.216
1904	2.575	2.975	2.700	2.800	2.850	3.050	3.000	2.650	2.700	2.800	2.950	2.950	2.833
1905	2.825	2.875	2.900	3.000	3.250	4.100	3.600	3.600	3.700	3.850	4.125	3.250	3.423
1906	3.650	3.925	4.175	4.000	4.050	4.000	3.950	3.975	4.125	4.000	4.150	4.175	4.015
1907	4.250	4.450	4.425	4.550	4.800	4.800	4.425	4.500	4.350	4.225	4.200	3.550	4.377
1908	3.200	4.000	3.750	3.900	3.600	2.950	3.150	3.000	2.800	2.880	2.900	3.250	3.282
1909	3.275	3.325	3.175	3.275	3.300	3.250	3.000	3.250	3.500	4.250	4.225	4.175	3.500
1910	4.200	4.400	4.550	4.650	4.500	4.500	5.300	6.050	6.100	6.400	6.100	6.050	5.233
1911	6.200	6.750	7.450	8.500	7.750	6.750	6.250	5.400	6.250	6.400	6.600	6.300	6.717
1912	7.150	6.650	6.700	6.900	6.500	6.550	6.450	6.475	6.850	6.600	6.500	6.375	6.642
1913	5.950	5.750	6.500	5.500	4.750	4.800	4.000	4.250	4.200	4.000	4.000	4.100	4.817
Av. 1909–1913	5.355	5.375	5.675	5.765	5.360	5.170	5.000	5.085	5.380	5.530	5.485	5.400	5.382
1914	4.000	4.400	4.250	4.150	4.100	4.050	4.200	3.950	3.750	3.850	3.750	3.750	4.017
1915	3.600	3.500	3.400	3.400	3.650	3.200	3.450	3.250	3.250	3.700	4.800	6.000	3.767
1916	5.950	5.750	5.400	5.200	4.300	5.100	5.500	6.650	6.150	6.250	6.550	6.800	5.800
1917	6.600	6.550	6.275	6.000	6.300	6.300	6.000	5.850	6.000	6.800	6.850	7.175	6.392
1918	7.120	6.969	6.588	6.070	7.725	9.981	11.000	11.525	13.644	15.155	15.956	14.940	10.556
1919	14,250	13,463	12,325	12.185	12.050	14.275	16.450	17.850	17.330	17.125	17.475	17.070	15.154
1920	18.588	18.125	18.080	18.500	19.750	16.700	12.413	13.900	13.713	12.825	11.830	9.063	15.291
Av. 1914–1920	8.587	8.394	8.045	7.929	8.268	8.515	8.430	8.996	9.120	9.386	9.602	9.257	8.711
1921	8.813	7.500	5.850	4.950	5.260	5.050	5.050	4.970	5.425	5.600	5.680	5.325	5.789
1922	5.353	5.325	5.188	5.213	5.300	5.350	5.538	5.900	6.356	6.865	6.581	6.219	5.773
1923	6.115	5.969	6.150	6.225	6.070	5.825	5.820	5.750	5.850	5.840	5.775	5.669	5.922

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 649.—*Pulp wood: Prices per cord f. o. b. mill, in the United States, by species, 1899–1922.*

Calendar Year.	Average.	Spruce.		Hemlock.	Balsam fir.	Yellow pine.	Poplar.		Tamarack.	Gum.	Jack pine.	Cottonwood.	Pine.	Slabs and other mill waste.
		Domestic.	Imported.				Domestic.	Imported.						
1899	$3.55	$4.82	$6.51	------	------	------	$4.66	$4.52	------	------	------	------	------	------
1904	6.82	6.89	8.49	------	------	------	7.07	7.13	------	------	------	------	------	------
1907	8.17	8.55	9.60	$5.68	$7.59	(1)	7.85	8.44	------	------	(1)	------	$6.45	------
1908	8.38	8.76	10.60	6.02	7.23	(1)	8.01	8.04	------	------	(1)	------	6.08	------
1909	8.02	9.32	11.34	6.30	8.28	(1)	7.96	7.94	------	------	(1)	------	6.25	$4.66
1914	8.81	9.45	11.73	6.93	------	------	8.26	9.46	------	------	------	------	------	4.83
1916	8.76	9.35	11.47	6.60	9.79	$5.17	8.76	9.70	$5.50	$9.70	$7.52	$5.09	------	4.63
1917	11.10	11.98	16.52	7.96	12.16	5.26	9.69	11.03	6.35	11.44	10.45	8.94	------	6.14
1918	13.93	15.38	19.25	9.50	15.42	7.50	13.67	12.87	9.03	15.85	13.35	7.24	------	7.55
1919	15.95	17.20	20.85	11.02	15.65	11.71	17.84	18.02	9.78	18.20	9.88	8.42	------	9.66
1920	19.03	19.97	26.78	14.80	19.20	12.15	17.74	18.96	12.75	20.39	11.03	11.33	------	12.13
1921	20.10	21.68	27.98	16.04	18.96	12.10	19.97	22.17	13.27	21.55	14.47	11.08	------	9.07
1922	16.20	18.11	21.87	11.64	14.52	9.51	14.95	17.99	11.58	15.32	12.38	------	------	10.43

Forest Service. From reports of mills to Forest Service and Bureau of the Census.

[1] Included in pine.

TABLE 650.—*Wood subjected to preservative treatment, 1909–1922.*

Calendar year.	Crossties.	Piles.	Poles.	Wood blocks.	Cross arms.	Construction timbers.	Miscellaneous lumber.	Total material treated.
				CREOSOTE.				
	Cubic feet.	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*
1909	29,830,080	4,421,726	659,664	2,994,260	41,764	4,902,311	417,787	43,267,622
1910	44,525,229	5,219,254	255,597	4,692,453	88,069	7,801,272	2,087,713	65,269,587
1911	49,532,163	4,937,363	106,213	10,145,724	71,961	7,417,105	2,499,995	74,710,524
1912	57,461,515	7,624,939	1,169,981	7,091,658	1,643,128	6,892,493	2,841,195	84,724,909
1913	75,998,307	7,630,328	2,367,769	6,810,308	1,813,010	10,308,883	1,853,993	106,782,598
1914	67,774,329	7,804,657	1,188,511	3,127,506	395,403	8,389,158	1,348,566	90,028,130
1915	51,231,207	6,288,238	2,336,318	6,064,758	87,373	9,264,164	881,028	76,153,086
1916	62,576,403	8,524,680	6,303,954	7,205,953	178,210	9,521,609	691,870	95,002,679
1917	48,685,554	8,493,715	5,930,559	4,610,427	239,764	7,830,673	706,084	76,496,776
1918	34,638,147	7,620,974	4,540,620	4,825,766	210,903	7,606,153	707,294	60,149,857
1919	44,938,215	9,151,972	6,649,491	3,372,828	75,310	9,220,880	553,750	73,962,446
1920	40,114,551	8,013,192	10,309,746	6,741,410	318,707	9,054,413	1,130,307	75,691,326
1921	66,139,398	5,528,275	10,906,157	6,202,904	108,715	9,052,679	663,183	98,001,311
1922	60,625,086	7,494,649	16,482,963	3,947,551	374,829	10,632,378	1,029,509	100,586,965
				ZINC CHLORIDE.				
1909	24,153,162	(1)	(1)	(1)	(1)	320,891	2,333	24,476,386
1910	27,587,583	(1)	(1)	(1)	(1)	541,514	71,060	28,200,157
1911	28,337,883	(1)	(1)	(1)	(1)	1,043,851	119,931	29,501,665
1912	28,532,874	(1)	18,246	(1)	(1)	259,972	20,092	28,831,184
1913	36,051,816	(1)	47,996	(1)	(1)	585,756	7,670	36,693,238
1914	50,020,755	(1)	(1)	(1)	(1)	1,317,925	4,355	51,343,036
1915	53,457,852	4,726	(1)	(1)	(1)	2,406,150	275,279	56,144,007
1916	43,859,028	859	164	(1)	(1)	1,526,881	346,047	45,732,979
1917	44,529,954	7,093	45,788	10,421	(1)	2,127,872	5,070	46,726,198
1918	51,166,146	57,845	(1)	13,939	(1)	2,337,169	30,790	53,605,889
1919	58,912,323	2,019	(1)	(1)	(1)	2,164,007	63,987	61,143,236
1920	87,398,160	(1)	(1)	(1)	(1)	1,823,437	94,151	89,315,748
1921	90,797,841	298	(1)	(1)	(1)	2,738,292	67,835	93,604,266
1922	52,254,303	2,029	(1)	(1)	(1)	1,296,980	19,564	53,572,876

[1] None reported.

TABLE 650.—*Wood subjected to preservative treatment, 1909–1922*—Continued.

ZINC-CREOSOTE.

Calendar year.	Crossties.	Piles.	Poles.	Wood blocks.	Cross arms	Construction timber.	Miscellaneous lumber.	Total material treated.
1909	8,095,794	(1)	(1)	(1)	(1)	62,918	43,699	8,202,411
1910	6,354,219	38,392	(1)	(1)	(1)	181,143	30,646	6,604,400
1911	7,312,374	(2)	(1)	(1)	(1)	(2)	(2)	7,312,374
1912	8,214,303	97,874	(1)	(1)	(1)	560,613	99,367	8,972,157
1913	6,938,838	327,594	(1)	(1)	(1)	758,989	53,628	8,079,049
1914	5,868,834	(1)	(1)	(1)	(1)	140,718	(2)	6,009,552
1915	6,548,136	2,320	110,220	(1)	(1)	40,396	4,822	6,705,814
1916	5,935,242	837	53,933	(1)	(1)	359,428	(1)	6,349,440
1917	6,482,046	(1)	(1)	(1)	(1)	1,102,635	847	7,585,528
1918	6,023,334	167,438	12,300	76,393	209,927	164,813	125,327	6,779,532
1919	8,850,222	14,059	(1)	(1)	(1)	562,408	58,399	9,485,083
1920	7,414,866	79,354	(1)	(1)	(1)	434,123	5,231	7,983,574
1921	9,183,702	61,386	(1)	(1)	(1)	48,237	2,499	9,295,824
1922	11,045,913	111	(1)	(1)	(1)	684,242	14,176	11,744,442

MISCELLANEOUS.

1909	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1910	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1911	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1912	2,974,317	14,222	352	305,437	(1)	80,446	28,032	3,402,806
1913	1,792,287	(1)	84,655	45,185	11,709	(1)	124,367	2,059,003
1914	7,877,043	257,245	293,896	3,741,804	22,511	(1)	9,303	12,201,922
1915	19,560	(1)	66,242	1,643,213	3,254	123,377	330	1,855,976
1916	37,431	56,458	389,031	2,738,731	2,634	166,183	47,416	3,437,884
1917	686,856	85,204	749,156	4,464,382	16,274	433,896	100,316	6,530,084
1918	(1)	463,115	62,850	1,381,196	2,541	107,456	60,452	2,077,612
1919	3,021	(1)	11,775	1,340,850	(1)	114,583	(1)	1,470,229
1920	85,019	(1)	(1)	(1)	(1)	283,838	(1)	318,857
1921	29,606	2,040	53,099	(1)	(1)	37,500	19,584	141,827
1922	24,120	(1)	525,677	(1)	(1)	99,480	66,787	716,064

ALL PRESERVATIVES.

1909	62,079,036	4,421,726	659,664	2,994,290	41,764	5,286,120	463,819	75,946,419
1910	78,467,031	5,257,646	255,567	4,692,453	84,069	8,523,929	2,789,419	100,074,144
1911	85,182,420	4,937,363	106,213	10,145,724	71,961	8,460,056	2,619,926	111,524,563
1912	97,183,009	7,737,035	1,188,579	7,397,095	1,643,128	7,793,524	2,988,686	125,931,056
1913	120,781,248	7,957,922	2,500,420	6,856,203	1,824,719	11,653,628	2,039,658	153,613,888
1914	131,540,961	8,061,902	1,482,407	6,809,370	417,914	9,847,801	1,362,284	159,582,639
1915	111,256,755	6,295,284	2,512,780	7,707,971	90,627	11,834,087	1,161,459	140,858,963
1916	112,408,104	8,582,834	6,747,082	9,944,684	180,844	11,574,101	1,085,333	150,522,982
1917	100,378,410	8,586,012	6,725,503	9,085,230	256,038	11,495,076	812,317	137,338,586
1918	91,827,627	8,309,372	4,615,770	6,297,294	423,371	10,215,593	923,863	122,612,890
1919	112,703,781	9,168,950	6,661,266	4,713,678	75,310	12,061,873	676,136	146,060,994
1920	134,962,596	8,092,546	10,309,746	6,741,410	318,707	11,645,811	1,238,689	173,309,505
1921	166,150,545	5,591,999	10,959,256	6,202,904	108,715	11,876,708	753,101	201,643,228
1922	123,949,422	7,496,789	17,008,640	3,947,551	374,829	12,713,080	1,130,036	166,620,347

Forest Service.

Converting factors: To obtain the number of crossties, divide figures shown by 3. To obtain the number of linear feet of piling, divide the figures shown by 0.6763. To obtain the number of poles, divide the figures shown by 17.6. To obtain the number of square yards of wood blocks, divide the figures shown by 2.825. To obtain the number of board feet of construction timbers, multiply the figures shown by 12. To obtain the number of crossarms, divide the figures shown by 0.6196. To obtain the number of board feet of miscellaneous lumber, multiply the figures shown by 12.

[1] None reported.
[2] Figures if used would reveal identity of reporting firms

TABLE 651.—*Wood preservatives consumed by treating plants, 1909–1922.*

Calendar year.	Number of plants.	Creosote.						Paving oil.	Zinc chloride.	Other preservatives.
		Distillate coal-tar creosote.	Creosote coal-tar solution.	Refined water-gas tar.	Water-gas tar solution.	Imported.	Total.			
		Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Pounds.*	*Gallons.*
1909	64	(1)	(1)	(1)	(1)	37,569,041	51,426,212	(1)	16,215,107	(1)
1910	71	(1)	(1)	(1)	(1)	45,081,916	63,260,271	(1)	16,802,532	2,333,707
1911	80	(1)	(1)	(1)	(1)	51,516,706	73,027,335	(1)	16,359,797	1,000,000
1912	84	(1)	(1)	(1)	(1)	52,531,295	83,666,490	(1)	20,751,711	3,072,462
1913	93	(1)	(1)	(1)	(1)	66,673,192	108,373,359	(1)	26,466,803	3,885,738
1914	94	(1)	(1)	(1)	(1)	51,307,736	70,334,606	9,420,444	27,212,259	2,486,637
1915	102	(1)	(1)	(1)	(1)	37,501,007	80,859,442	3,205,563	33,269,604	1,693,544
1916	117	(1)	(1)	(1)	(1)	43,649,931	90,404,749	5,675,095	26,746,577	582,754
1917	115	(1)	(1)	(1)	(1)	18,259,141	75,541,737	7,579,819	26,444,689	137,361
1918	107	(1)	(1)	(1)	(1)	2,105,736	52,776,386	4,057,862	31,101,111	28,013
1919	108	24,286,851	31,292,661	1,148,034	2,334,727	6,493,974	65,556,247	2,412,592	43,483,134	102,011
1920	115	25,483,230	27,921,614	1,377,702	4,399,282	9,575,680	68,757,508	1,848,911	49,717,929	1,772,084
1921	122	19,460,500	23,283,046	3,135,610	2,391,816	28,242,307	76,513,279	1,060,753	51,375,360	1,810,294
1922	128	25,644,272	21,558,130	1,481,573	2,175,176	35,462,238	86,321,389	1,414,682	29,868,639	2,176,843

Forest Service.

[1] Statistics not available.

IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS.

TABLE 652.—*Agricultural imports of the United States, 1921–1923.*

Article imported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
ANIMALS AND ANIMAL PRODUCTS.						
Live animals:	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Cattle.....No.	330	152	264	$23,634	$3,055	$6,630
Horses.....No.	4	3	3	1,205	532	840
Sheep.....No.	161	96	83	1,542	515	542
Swine.....No.	1			28		
Birds (live).....No.			[2] 353			[2] 317
Poultry (live).....lbs.			[2] 932			[2] 225
All other (live)				1,376	1,748	1,068
Total live animals				27,785	5,850	9,628
Beeswax and other animal wax..lbs.	2,215	3,101	4,095	694	581	818
Casein or lactarine.....lbs.	14,180	10,529	26,094	1,570	707	4,135
Dairy products:						
Butter and substitutes.....lbs.	34,344	9,551	15,772	15,013	3,257	5,821
Cheese and substitutes.....lbs.	16,585	34,271	54,555	5,691	10,816	17,313
Milk and cream—						
Fresh, natural state, sweet or sour.....gals.	4,391	4,536	5,148	2,843	3,132	4,148
Condensed, evaporated, malted, etc.....lbs.	19,273	2,037	7,276	2,909	317	934
Total dairy products				27,356	17,522	28,216
Eggs:						
Eggs of poultry in shell.....doz.	3,316	1,224	535	1,056	328	159
Eggs and egg yolks, preserved, (dried or frozen).....lbs.	28,768	16,540	14,821	6,177	2,415	2,828
Egg albumen.....lbs.	7,889	7,388	3,213	2,381	1,980	1,369
Total eggs				9,614	4,723	4,356
Feathers and downs (crude):						
Ostrich.....lbs.	128	125	179	1,193	964	1,140
Other.....lbs.	2,859	3,614	4,821	1,088	1,155	2,075
Total				2,281	2,119	3,215
Fibers, animal:						
Silk—						
Cocoon.....lbs.	26	161	380	39	120	383
Raw or reeled from the cocoon.....lbs.	29,463	48,179	52,684	181,883	300,446	405,796
Waste.....lbs.	5,290	9,097	[3] 1,272	8,398	6,717	[3] 747
Reelers and mill waste.....lbs.			[2] 231			[2] 170
All other waste.....lbs.			[2] 8,620			[2] 6,471
Total silk				190,320	307,283	413,567
Wool and hair—						
Carpet.....lbs.	50,378	148,787	171,879	7,638	19,979	34,946
Clothing.....lbs.	251,249	32,821	43,703	65,567	6,939	13,555
Combing.....lbs.	12,997	69,223	298,496	3,509	17,585	108,117
Hair of the angora, goat, alpaca and other like animals.....lbs.	3,612	4,246	[3] 2,851	1,128	1,146	[3] 1,069
Angora (mohair).....lbs.			[2] 7,220			[2] 2,857
Cashmere (alpaca, etc.).....lbs.			[3] 1,322			[3] 551
Total hair of angora, etc				1,128	1,146	4,477
Wooled sheep and lamb skins, dry and green.....lbs.			[2] 24,708			[2] 5,096
Total wool.....lbs.				77,902	45,649	167,191

[1] Preliminary. [2] Beginning Sept. 22, 1922. [3] July 1–Sept. 21, 1922.

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30. Quantity. 1920–21	Quantity. 1921–22	Quantity. 1922–23 [1]	Value. 1920–21	Value. 1921–22	Value. 1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS—con.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Gelatin.....lbs..	2,397	2,527	2,639	$1,231	$998	$906
Glue and glue size.....lbs..	3,562	4,175	6,797	703	574	692
Honey.....lbs..	5,436	2,557	693	550	119	61
Ivory (unmanufactured).....lbs..	368	198	569	1,036	543	1,520
Packing-house products:						
Blood, dried.....lbs..	7,413	[2]	[2]	290	[2]	[2]
Bones, hoofs and horns.....lbs..	161,834	43,360	101,269	2,939	592	1,485
Bristles—						
Not sorted.....lbs..	86	6	61	276	11	21
Sorted.....lbs..	4,158	3,158	5,623	8,978	4,305	7,772
Total bristles.....				9,254	4,316	7,793
Hair, animal—						
Horse.....lbs..	3,553	3,945	7,498	1,590	1,538	3,300
Other.....lbs..	4,659	4,298	9,605	803	419	1,195
Total hair (animal).....				2,393	1,957	4,495
Hide cuttings, raw, and other glue stock.....lbs..	36,108	25,322	29,758	2,270	1,150	1,167
Hides and skins (other than furs)—						
Buffalo—						
Dry, and dry salted..lbs..	4,617	3,084	2,537	1,398	528	337
Wet, salted.....lbs..			[3] 1,265			[4] 230
Cabretta.....lbs..	15			9		
Kip—						
Dry and dry salted (6 to 12 pounds).....lbs..			[3] 11,628			[3] 2,120
Wet salted (12 to 25 pounds).....lbs..			[3] 9,168			[3] 1,908
Calf—						
Dry and dry salted (less than 6 pounds).....lbs..	11,810	16,175	[5] 14,988	4,548	3,213	[5] 4,002
Wet salted (less than 12 pounds).....lbs..	23,780	25,383	[5] 30,736	6,000	5,354	[5] 7,048
Total kip and calf.....				10,548	8,567	15,078
Cattle—						
Dry and dry salted..lbs..	24,814	18,439	58,770	7,092	2,912	9,036
Wet salted.....lbs..	173,759	186,198	346,613	32,775	23,687	54,576
Total cattle hides.....				39,867	26,599	64,512
Goat and kid—						
Dry and dry salted..lbs..	36,816	68,228	70,763	28,165	29,443	33,223
Green or pickled.....lbs..	4,912	15,307	18,607	1,866	3,337	4,365
Total goat and kid.....				30,031	32,780	37,588
Horse, colt, and ass—						
Dry and dry salted..lbs..	1,142	1,295	11,940	256	139	1,452
Wet salted.....lbs..	5,461	3,430	10,461	752	217	944
Total horse, etc.....				1,008	356	2,396
Kangaroo and wallaby..lbs..	878	724	1,152	854	492	1,084
Sheep and lamb—						
Dry.....lbs..	22,401	12,593	[4] 3,828	9,517	3,131	[4] 853
Green or pickled.....lbs..	35,899	36,245	[4] 16,557	10,805	5,222	[4] 2,417
Slats, dry and pickled lbs..			[6] 38,276			[6] 8,155
Fleshers, pickled.....lbs..			[6] 2,927			[6] 656
Skivers, pickled.....lbs..			[6] 104			[6] 51
Total sheep and lamb..				20,322	8,353	12,132
All other hides and skins..lbs..	5,889	5,504	7,859	1,962	1,224	1,939
Total hides and skins.....				105,999	78,899	135,296

[1] Preliminary.
[2] Included in "All Other Fertilizers."
[3] Beginning Sept. 22, 1922.
[4] July 1–Sept. 21.
[5] Including kip skins until Sept. 21, 1922.
[6] Beginning Sept. 22, 1922.

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30. Quantity. 1920–21	Quantity. 1921–22	Quantity. 1922–23[1]	Value. 1920–21	Value. 1921–22	Value. 1922–23[1]
ANIMALS AND ANIMAL PRODUCTS—con.						
Packing-house products—Continued.						
Meats—						
Beef and veal, fresh ..... lbs.	*Thousands.* 41,956	*Thousands.* 28,001	*Thousands.* 32,481	*Thousands.* $6,246	*Thousands.* $2,989	*Thousands.* $3,189
Mutton and lamb, fresh ..... lbs.	108,528	12,855	8,709	12,844	2,045	1,421
Pork, fresh ..... lbs.	1,212	930	998	336	177	188
Other meats ..... lbs.	.....	4,619	2,340	.....	1,845	559
Poultry, dead or prepared ..... lbs.	.....	.....	[2] 2,907	.....	.....	[2] 1,186
Meat, prepared or preserved ..... lbs.	7,140	5,129	8,991	1,692	691	1,118
Canned ..... lbs.	8	.....	.....	2	.....	.....
All other ..... lbs.	207	.....	.....	32	.....	.....
Total meats	.....	.....	.....	21,152	7,657	7,661
Oleo stearin ..... lbs.	743	.....	.....	92	.....	.....
Rennets ..... lbs.	123	.....	.....	72	.....	.....
Sausage casings ..... lbs.	12,071	12,436	18,503	6,427	7,184	11,891
Tallow ..... lbs.	11,762	.....	.....	1,339	.....	.....
Beef and hog fats ..... lbs.	.....	1,789	11,016	.....	113	838
Animal oils, n. e. s. ..... galls	.....	4,961	409	.....	2,703	154
Grease and oils, n. e. s. ..... lbs.	.....	18,823	[3] 1,465	.....	912	[3] 79
All other meat products ..... lbs.	7,303	6,467	.....	2,519	422	550
Total meats and meat products	.....	.....	.....	31,101	18,991	21,173
Total packing-house products	.....	.....	.....	154,246	105,905	171,409
Total animal products	.....	.....	.....	495,348	492,573	805,714
VEGETABLE PRODUCTS.						
Argols or wine lees ..... lbs.	26,486	18,749	21,950	3,032	1,218	1,739
Grain and grain products:						
Breadstuffs—						
Corn ..... bush.	5,743	125	136	6,973	137	158
Oats ..... bush.	3,796	1,733	293	1,964	799	178
Rice—						
Uncleaned, including paddy ..... lbs.	33,268	6,122	11,678	2,158	372	362
Cleaned, except patna ..... lbs.	92,109	66,707	56,947	4,014	2,307	1,772
Rice flour, meal and broken rice ..... lbs.	1,428	790	911	108	55	57
Total rice	.....	.....	.....	6,280	2,734	2,191
Wheat ..... bush.	51,004	14,466	18,013	97,767	16,935	20,033
Wheat flour ..... bbls.	1,421	619	429	13,592	3,560	2,308
Bread, biscuit, etc. ..... lbs.	1,743	310	848	387	72	203
Farinaceous substances, tapioca, etc. ..... lbs.	59,606	77,999	93,965	2,855	2,089	3,465
Macaroni, vermicelli, etc. ..... lbs.	1,297	1,992	3,254	159	177	250
All other breadstuffs	.....	.....	.....	4,135	1,863	1,041
Total breadstuffs	.....	.....	.....	134,112	28,366	29,827
Fodders and feeds:						
Hay ..... tons.	113	5	32	2,442	65	345
Oil cake and oil-cake meal ..... lbs.	196,690	75,628	[2] 24,251	3,707	1,660	[2] 636
Bean ..... lbs.	.....	.....	[2] 22,772	.....	.....	[2] 422
Coconut ..... lbs.	.....	.....	[2] 46,055	.....	.....	[2] 505
All other ..... lbs.	.....	.....	[2] 21,500	.....	.....	[2] 393
Total oil cake and oil-cake meal	.....	.....	.....	3,707	1,660	2,016
Bran, sharts, etc. ..... tons.	.....	.....	91	.....	.....	1,824
Beet pulp (dried) ..... tons.	.....	.....	17	.....	.....	605
Other fodders and feeds	.....	.....	.....	.....	.....	925
Total fodders and feeds	.....	.....	.....	6,149	1,745	5,715

[1] Preliminary. [2] Beginning Sept. 22, 1922. [3] July 1–Sept. 21

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
VEGETABLE PRODUCTS.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Broom corn.....tons	1			$72		
Chicory root, raw or prepared...lbs	7,646	(2)	(2)	514	(2)	(2)
Cocoa and chocolate:						
Cocoa or cacao (crude).....lbs	327,123	317,124	381,508	30,931	$27,349	$34,547
Cocoa and chocolate (prepared).....lbs	1,323	1,844	2,421	362	455	549
Total cocoa and chocolate				31,293	27,804	35,096
Coffee.....lbs	1,348,926	1,238,012	1,305,188	176,988	148,503	181,639
Extracts of and substitutes for.....lbs	(3)	[4] 31	[4] 784	(3)	[4] 1	[4] 28
Fibers, vegetable:						
Cotton.....bales	263			44,666		
Long staple.....bales		46	161		7,189	22,163
Short staple.....bales		329	333		36,769	38,477
Total cotton 478-lb. bales	263	375	494	44,666	43,958	60,640
Flax—						
Hackled[5].....tons	1	2	2	1,228	1,947	2,281
All other.....tons	5	3	6	2,178	959	2,019
Total flax				3,406	2,906	4,300
Hemp.....tons	10	5	6	3,153	893	1,412
Istle and Tampico.....tons	16	10	11	1,866	754	890
Jute and jute butts.....tons	90	62	[6] 8	8,127	5,416	[6] 985
Jute.....tons			[7] 66			[7] 10,132
Jute butts.....tons			[7] 10			[7] 532
Kapok.....tons	5	10	9	1,574	3,254	4,125
Maguey.....tons			[7] 1			[7] 92
Manila.....tons	52	44	97	13,951	5,891	12,943
New Zealand flax.....tons	4			604		
Sisal grass.....tons	159	72	98	23,299	7,725	9,896
All other vegetable fibers...tons	6	9	19	1,045	992	2,478
Total vegetable fibers				101,691	71,789	108,335
Forest products:						
Drugs, herbs, leaves, roots, etc.—						
Cinchona bark from which quinine is made.....lbs	3,566	767	3,443	1,335	277	1,110
Pyrethrum flowers.....lbs			[7] 3,148			[7] 1,479
Licorice root.....lbs	59,693	62,388	35,839	3,632	2,681	1,195
Licorice extract.....lbs			[7] 1,329			[7] 309
Nux vomica.....lbs			2,078			98
Opium, crude.....lbs	77	144	115	306	385	360
Senna.....lbs			2,623			208
All other herbs, roots, etc.....lbs			[7] 22,480			[7] 2,556
Total herbs, roots, etc				5,273	3,343	7,306
Corkwood bark.....lbs	47,804	37,435	68,818	2,373	1,024	1,826
Dyeing extracts.....lbs	709	2,485	3,556	115	169	270
Tanning extracts—						
Quebracho.....lbs	110,184	134,274	120,224	6,602	5,206	4,796
All other.....lbs	9,753	7,606	7,266	546	260	214
Total tanning extracts				7,148	5,466	5,010
Dyewoods and materials for tanning—						
Logwood.....tons	57	31	28	1,697	645	427
Mangrove bark.....tons	7	2	7	344	41	200
Myrobalans fruit.....tons			[7] 22			[7] 429
Quebracho wood.....tons	33	24	43	532	266	556
Sumac.....tons	1	6	8	74	268	454
Valonia.....lbs			[7] 7,638			[7] 160
Other, crude				1,481	1,011	1,371
Total dyewoods, etc				4,128	2,231	3,577

[1] Preliminary.
[2] Included in "Substitutes for coffee."
[3] See "Chicory root."
[4] Includes chicory root.
[5] Known as "Dressed Line."
[6] July 1–Sept. 21, 1922.
[7] Beginning Sept. 22, 1922.

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Forest products—Continued.						
Gums, resins, and balsams—						
Varnish, gums, and resins—	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Copal, damar, and kauri ..... lbs.	44,618	27,194	[2] 11,590	$6,502	$2,967	[2] $1,381
Damar ..... lbs.			[3] 9,383			[3] 1,299
Kauri ..... lbs.			[3] 7,254			[3] 1,595
Shellac ..... lbs.	23,872	30,768	32,806	16,634	15,657	21,032
Others ..... lbs.			31,308			3,264
Tar, pitch, and turpentine ..... lbs.						[3] 130
Camphor—						
Natural (crude) ..... lbs.	2,093	1,592	3,498	1,930	921	2,226
Refined and synthetic ..... lbs.	813	1,052	3,541	995	1,144	2,534
Total camphor				2,925	2,065	4,760
Chicle ..... lbs.	8,710	8,283	908	5,077	4,095	454
Crude ..... lbs.			8,217			4,109
Refined or advanced ..... lbs.			[4]			[4]
Total chicle				5,077	4,095	4,563
Balsams, crude ..... lbs.	452	363	521	205	151	206
Arabic or senegal ..... lbs.	4,416	8,934	11,001	415	734	1,341
Tragacanth ..... lbs.			[3] 1,075			[3] 538
Gambier or terra japonica ..... lbs.	6,233	9,818	7,727	432	391	440
Asafetida ..... lbs.			[3] 95			[3] 29
All other gums, resins, etc. ..... lbs.	10,822	13,408	9,617	2,252	1,415	1,138
Total gums, resins, and balsams				34,622	27,475	41,736
India rubber, gutta-percha, etc.—						
Rubber, crude ..... lbs.	356,975	568,381	797,655	114,640	86,751	169,108
Jelutong or pontianack ..... lbs.	6,774	5,782	8,713	1,076	453	702
Balata ..... lbs.	1,980	1,867	1,757	1,043	1,063	930
Gutta-percha ..... lbs.	4,575	2,481	1,903	1,023	363	336
Guayule gum ..... lbs.	995			197		
Total India rubber, etc.				117,979	88,630	171,126
Ivory, vegetable (tagua nuts) ..... lbs.	31,090	28,745	33,572	1,377	770	923
Wood—						
Logs and round timbers (except cabinet wood) ..... M ft.	96	161	217	2,259	2,709	3,897
Timber other than sawed ..... M ft.				[5] 351	132	147
Cabinet woods in the logs—						
Cedar ..... M ft.	7	8	10	568	526	620
Mahogany ..... M ft.	55	40	43	6,634	3,297	3,313
All other ..... M ft.	11			998	351	743
Total cabinet woods				8,200	4,174	4,676
Lumber—						
Boards, planks, deals, and other sawed lumber ..... M ft.	920	1,124	[3] 436	39,008	34,530	[3] 12,690
Softwoods ..... M ft.			[3] 1,470			[3] 43,539
Hardwoods ..... M ft.			[3] 52			[3] 2,824
Laths ..... thousands.	455	1,182	1,653	3,459	6,595	9,529
Shingles ..... thousands.	1,831	2,190	2,695	7,456	7,906	10,952
All other lumber				3,079		
Total lumber				53,062	49,031	79,543

[1] Preliminary.
[2] July 1–Sept. 21.
[3] Beginning Sept. 22.
[4] Less than 500 pounds.
[5] Timber, "Ship and other."

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Forest products—Continued.						
Wood—Continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Brier root and ivy or laurel root				$476		
Rattan (unmanufactured)				2,544	$758	$2,076
Chair cane or reeds				1,207	454	718
Osier or willow for basket making.....lbs			[2] 1,813			[2] 129
Boards, planks, deals, and other forms of sawed cabinet woods.....M ft	7	9	4	708	671	296
Other unmanufactured or partly manufactured wood				[3] 1,479	3,563	2,663
Total wood				70,286	61,492	94,145
Pulpwood—						
Rough.....cord	338	178	304	4,298	2,015	2,784
Peeled.....cord	1,093	576	773	16,155	6,262	7,555
Rossed.....cord	168	72	131	3,196	1,032	1,714
Total pulpwood				23,649	9,309	12,053
Woodpulp—						
Mechanically ground.....tons	167	207	244	12,147	5,485	7,954
Chemical woodpulp—						
Sulphite, unbleached.....tons	223	312	500	30,393	17,373	26,297
Sulphite, bleached.....tons	96	147	254	16,942	12,733	22,000
Total sulphite				47,335	30,106	48,297
Soda pulp.....tons			1			67
Sulphate, unbleached.....tons	129	230	269	15,489	13,665	16,234
Sulphate, bleached.....tons	9	6	26	1,220	422	1,638
Total sulphate				16,709	14,087	17,872
Total woodpulp				76,191	49,678	74,190
Total forest products				343,141	249,587	412,162
Fruits:						
Apples.....bush			[2] 153			[2] 299
Bananas.....bunch	40,808	46,120	44,501	19,336	19,951	18,909
Berries.....lbs			1,248			111
Currants.....lbs	50,178	49,467	18,924	5,352	3,710	1,632
Dates.....lbs	35,267	46,742	52,037	2,034	2,417	2,686
Figs.....lbs	25,424	43,139	36,585	2,570	3,413	1,993
Grapes.....cu. ft	997	780	1,355	1,532	1,246	1,920
Grape fruit.....lbs				685	589	643
Lemons.....lbs		101,592	122,821	1,520	2,113	2,690
Olives.....galls	4,054			3,023	3,125	4,870
Oranges and limes.....lbs				36	274	223
Pineapples				1,470	2,187	2,539
Raisins and other dried grapes.....lbs	46,269	18,363	12,335	6,778	1,936	1,177
Fruits preserved or canned				2,372	1,553	[4] 505
In their own juice or sugar.....lbs			[2] 776			[2] 102
Other.....lbs			[2] 8,173			[2] 1,026
All other fruits.....lbs				3,225	4,848	[2] 3,325
Total fruits				49,933	47,362	44,650
Glue, vegetable.....lbs			[2] 22			[2] 1
Moss, seaweed, etc. (crude).....lbs	7,989	7,747	12,537	506	458	571
Hops.....lbs	4,808	893	1,295	2,283	341	257

[1] Preliminary. [2] Beginning Sept. 22. [3] Unmanufactured only. [4] July 1–Sept. 21, 1922.

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30. Quantity. 1920–21	Quantity. 1921–22	Quantity. 1922–23 [1]	Value. 1920–21	Value. 1921–22	Value. 1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Indigo:	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Natural.....lbs.	137	23	13	$306	$29	$13
Synthetic.....lbs.	287	443	14	215	275	13
Total indigo.....				521	304	26
Liquors, alcoholic:						
Malt liquors.....galls.	10			14		
Distilled spirits.....proof galls.		350	54		1,530	203
Brandy.....proof galls.	35			183		
Cordials.....proof galls.	108			354		
Gin.....proof galls.	30			82		
Whisky.....proof galls.	195			1,047		
All other.....proof galls.	4			13		
Total spirits.....				1,679	1,530	203
Wines—						
Champagne or other sparkling.....galls.	154	33	14	1,089	278	83
Still wines.....galls.		646	162		912	260
In casks.....galls.	1,231			1,711		
In other coverings.....doz. qts.	90			581		
Total still wines.....				2,292	912	260
Other beverages and fruit juices, n. e. s.....				243	325	481
Lemon, lime, and sour orange juice, not more than 2 per cent alcohol.....lbs.			[3] 1,165			[2] 129
Total liquors, beverages, etc.....				5,317	3,045	1,156
Nursery and greenhouse stock:						
Bulbs, roots, and corms.....thousands		199	[3] 100		4,612	[3] 4,330
Hyacinth.....do			[2] 6			[2] 218
Lily, tulip, and narcissus.....thousands			[3] 56			[2] 1,854
Crocus and other.....do			[2] 8			[2] 117
Trees, plants, cuttings, and seedlings.....					339	[3] 3
Fruit stocks.....thousands			[2] 16			[2] 448
Rose stocks and plants.....do			[2] 11			[2] 102
All other.....					66	[2] 136
Total nursery and greenhouse stock.....					5,017	7,298
Nuts:						
Almonds, not shelled.....lbs.	6,622	4,723	4,719	983	543	437
Almonds, shelled.....lbs.	13,875	26,619	22,972	4,292	8,039	5,640
Coconuts, in the shell.....no.	73,334	82,001	77,062	2,691	2,162	1,744
Coconut meat, broken or copra, shredded, desiccated, prepared.....lbs.	20,889	44,383	32,432	2,507	3,511	2,366
Cream and Brazil nuts.....lbs.	37,098	38,870	39,728	2,173	1,810	2,039
Filberts, not shelled.....lbs.	11,791	14,133	14,366	1,371	1,154	1,057
Filberts, shelled.....lbs.	2,170	5,434	6,209	397	818	918
Marrons, crude.....lbs.	22,915			1,188		
Chestnuts, including marrons.....lbs.		22,502	20,151		1,048	941
Peanuts, not shelled.....lbs.	5,361	3,376	3,862	283	146	171
Peanuts, shelled.....lbs.	42,628	7,427	42,439	2,089	349	2,011
Walnuts, not shelled.....lbs.	12,525	43,206	19,913	1,569	5,378	2,406
Walnuts, shelled.....lbs.	10,641	17,027	17,606	3,555	7,190	4,438
All other nuts.....				1,208	921	1,715
Total nuts.....				124,301	33,069	25,913

[1] Preliminary. [2] Beginning Sept. 22, 1922. [3] July 1–Sept. 21, 1922.

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30. Quantity. 1920–21	1921–22	1922–23 [1]	Value. 1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Oil seeds, vegetable oils and fats:						
Oils and fats—	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Fixed or expressed—						
Chinese nut ..... galls..	4,440	7,410	11,916	$4,817	$5,142	$10,189
Cocoa butter or butterine ..... lbs..	915	7,123	3,010	196	1,728	757
Coconut ..... lbs..	173,889	230,236	212,573	20,287	16,378	14,968
Cottonseed ..... lbs..	1,315	[2]	46	141	[2]	5
Linseed or flaxseed .. lbs..	14,974	168,705	56,764	2,105	11,978	5,053
Olive—						
Edible ..... lbs..	33,326	59,555	74,626	11,437	12,216	12,852
Inedible ..... galls..	262	3,171	5,685	268	1,680	3,445
Palm ..... lbs..	31,076	39,150	118,816	2,766	2,421	8,686
Palm kernel ..... lbs..	2,709			317		
Peanut ..... lbs..	18,163	2,878	7,553	2,311	322	706
Rapeseed ..... galls..	1,172	1,352	1,770	1,103	929	1,226
Soy bean ..... lbs..	49,331	8,283	38,635	4,012	470	2,412
Vegetable tallow .... lbs..			[3] 8,467			[3] 584
All other				792	752	2,095
Total fixed or expressed..				50,552	54,016	62,978
Oils, distilled and essential—						
Bergamot ..... lbs..			[3] 113			[3] 295
Citronella ..... lbs..			[3] 976			[3] 559
Lavender ..... lbs..			[3] 244			[3] 383
Orange ..... lbs..			183			361
Birch tar and cajaput ..... lbs..	7			2		
Lemon ..... lbs..	626	767	447	579	562	278
All other				4,989	4,004	3,499
Total distilled				5,570	4,566	5,375
Total all vegetable oils.				56,122	58,582	68,353
Seeds:						
Copra, not prepared, etc .... lbs..	192,246	249,722	306,100	9,924	9,404	11,594
Cottonseed ..... lbs..			[3] 56,982			[3] 439
Castor bean ..... lbs..	33,011	93,241	88,199	1,302	2,046	2,847
Flaxseed ..... bu..	16,170	13,632	25,006	39,133	26,019	50,356
Palmnuts and palmnut kernels ..... lbs..	4,545	[4]	[4]	217	[4]	[4]
Poppy seed ..... lbs..			[3] 6,817			[3] 633
Other oil seeds ..... lbs..		303	31,406		20	1,349
Total oil seeds				50,576	37,489	67,326
Alfalfa ..... lbs..			[3] 5,233			[3] 589
Clover—						
Red ..... lbs..	14,515	9,290	609	2,218	1,532	91
Alsike ..... lbs..			2,242			257
Crimson ..... lbs..			1,451			188
All other clover ..... lbs..	17,740	16,663	9,001	2,088	2,149	1,148
Total clover seed				4,306	3,681	1,684
Grass seeds ..... lbs..	9,507	22,352	13,463	1,057	2,837	906
Vetch and other field seeds.. lbs..			7,139			839
Garden and other seeds—						
Cabbage ..... lbs..			[3] 685			[3] 99
Canary ..... lbs..			[3] 9,559			[3] 305
Sugar beet ..... lbs..	19,907	4,193	16,495	4,124	546	1,579
Turnip ..... lbs..			[3] 596			[3] 98
Other garden and flower seeds					2,233	1,282
All other seeds				4,768	2,046	1,341
Total seeds				64,831	48,832	76,138
Spices:						
Capsicum and paprika or cayenne pepper—						
Unground ..... lbs..	2,931	2,994	6,771	430	427	693
Ground ..... lbs..	2,563	3,185	3,642	503	464	494
Cassia or cassia vera, unground ..... lbs..	3,231	9,501	10,294	303	490	617
Cloves, unground ..... lbs..	4,722	5,797	6,776	1,199	1,282	1,144
Ginger root, unground ..... lbs..	4,022	6,689	6,312	492	623	675

[1] Preliminary. [2] Less than 500 pounds. [3] Beginning Sept. 22. [4] Included in "Other oil seeds."

TABLE 652.—*Agricultural imports of the United States, 1921–1923*—Continued.

Article imported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Spices—Continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Mustard—						
Ground ..... lbs.	908	1,594	1,764	$488	$922	$1,018
Seed, whole ..... lbs.	4,618	12,490	13,216	254	487	600
Nutmegs, unground ..... lbs.	3,492	4,144	5,258	561	469	699
Pepper—						
Unground ..... lbs.		36,948	[2] 8,339		2,588	[2] 587
Black or white ..... lbs.	21,930			2,172		
Black ..... lbs.			[3] 20,386			[3] 1,346
White ..... lbs.			[3] 4,823			[3] 483
All other spices ..... lbs.	9,067	8,714	18,640	923	564	2,200
Total spices				7,325	8,316	10,556
Starch ..... lbs.	12,935	7,876	12,715	616	357	406
Sugar and molasses:						
Molasses ..... galls.	113,414	87,908	161,831	3,509	1,667	3,093
Sugar—						
Beet ..... lbs.	22,492	6		3,968	(4)	
Cane ..... lbs.	6,984,196	8,464,329	8,422,483	660,110	200,774	365,100
Maple sugar and sirup .. lbs.	5,992	3,672	3,217	1,353	342	600
Sugar in dried cane ..... lbs.			[3] 5			[3] 1
Total sugar				665,431	201,116	365,701
Total sugar and molasses ...				668,940	202,783	368,794
Tea ..... lbs.	72,196	86,142	96,669	17,587	18,040	26,308
Tobacco, unmanufactured:						
Leaf, product of Philippine Islands ..... lbs.	1,851	504	1,922	495	57	226
Leaf, suitable for cigar wrappers ..... lbs.	10,271	5,211	8,794	19,357	10,940	19,432
Cigar leaf—						
Unstemmed ..... lbs.			[3] 10,598			[3] 8,388
Stemmed ..... lbs.			[3] 9,529			[3] 9,943
Cigarette leaf ..... lbs.			[3] 32,822			[3] 22,447
All other leaf ..... lbs.	46,801	59,511	[2] 10,129	48,368	46,053	[2] 8,193
Total leaf				68,220	57,050	68,629
Scrap and other unmanufactured ..... lbs.			[3] 1,990			[3] 596
Total unmanufactured				68,220	57,050	69,225
Vanilla beans ..... lbs.	986	1,248	1,281	1,751	2,279	2,884
Vegetables:						
Canned, prepared or preserved—						
Mushrooms and truffles. lbs.	3,753	6,185	5,991	1,521	1,881	1,818
Pickles and sauces ..... lbs.				1,538	2,375	1,172
Peas ..... lbs.			[3] 845			[3] 111
Tomatoes ..... lbs.			[3] 20,166			[3] 1,280
All other canned, etc				3,225	3,316	2,478
Other edible substances					373	1,491
Dried and fresh—						
Beans, dried ..... lbs.		31,171	157,356		1,215	5,513
Beans and lentils ..... bush.	824			2,271		
Peas, dried ..... bush.	1,560	59,832	25,963	6,549	2,155	1,020
Potatoes—						
Natural state ..... bush.	3,423	2,110	572	3,361	1,793	836
Dried and flour of ... lbs.		2,040	506	220	85	26
Garlic ..... lbs.	7,338	6,856	7,890	730	327	346
Onions ..... bush.	689	2,488	1,781	774	3,306	1,900
Turnips ..... lbs.			[3] 100,242			[3] 297
Other, dried and fresh				2,526	3,399	3,550
Total vegetables				22,715	20,225	21,838
Vinegar ..... proof galls.	153	(5)	(5)	70	(5)	(5)
Wax, vegetable ..... lbs.	6,235	7,243	9,385	1,600	1,013	1,501
Total vegetable products including forest products				1,789,630	1,036,086	1,500,416
Total vegetable products excluding forest products				1,446,489	786,499	1,088,254
Total agricultural imports including forest products				2,284,978	1,528,659	2,306,130
Total agricultural imports excluding forest products				1,941,837	1,279,072	1,893,968

Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, June, 1922, and 1923, Bureau of Foreign and Domestic Commerce.

[1] Preliminary. [2] Beginning Sept. 22. [3] July 1–Sept. 21, 1922. [4] Less than 500 pounds. [5] Included in "Other edible substances."

EXPORTS.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923.*

Article exported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS.						
Animals, live:	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Cattle—No.	146	[2] 90		$11,051	[2] $4,345	
Bulls for breeding—No.		[3] 1	2		[4] 189	$274
Cows for breeding—No.		[3] 3	20		[3] 347	884
Other cattle—No.		[3] 60	40		[3] 4,977	1,796
Swine—No.	103	98	76	2,210	1,242	990
Horses—No.	13	[2] 12		1,923	[2] 1,265	
For breeding—No.		[3] 1	(6)		[3] 132	137
Others—No.		[3] 6	8		[3] 471	912
Sheep—No.	81	62	16	533	294	165
Mules, asses, and burros—No.	7	11	13	1,063	1,010	1,325
Poultry, live—No.		[3] 227	491		[3] 154	268
Other live animals—lbs.			429	931	525	168
Total live animals				17,711	14,951	6,919
Beeswax—lbs.	190	102	83	80	28	25
Dairy products:						
Butter—lbs.	7,829	7,512	9,410	3,594	2,870	3,705
Cheese—lbs.	10,826	7,471	8,446	2,890	1,711	2,170
Milk and cream—						
Fresh and sterilized—galls.			90	441	294	80
Condensed (sweetened)—lbs.	147,732	79,525	48,067	27,162	11,675	6,770
Evaporated (unsweetened)—lbs.	114,036	107,786	108,971	13,113	18,363	10,098
Powdered (dried)—lbs.	3,838	11,318	2,918	770	1,462	504
Other, including cream—lbs.						
Total dairy products				47,970	36,375	23,327
Eggs:						
Eggs in the shell—doz.	26,960	33,762	34,284	11,251	10,016	9,311
Eggs and yolks (frozen, dried, and canned)—lbs.			555	202	132	89
Feathers (crude, not dressed)—lbs.			4,394	441	280	318
Fibers, animal, wool and mohair (unmanufactured)—lbs.	5,584	924	476	2,250	200	123
Gelatin, animal—lbs.		[3] 77	301		[3] 62	202
Glue, animal—lbs.	5,977	2,101	2,905	1,148	349	431
Honey—lbs.	1,112	2,407	2,891	183	262	290
Packing-house products:						
Meat—						
Beef and veal—						
Beef, fresh—lbs.	21,084	3,866	3,716	3,705	519	559
Veal, fresh—lbs.		127	361		23	55
Beef, canned—lbs.	10,763	3,749	2,302	2,511	971	631
Beef and veal, cured or pickled—lbs.	23,313	26,774	24,185	2,998	2,398	2,309
Total beef and veal—lbs.	55,160	34,516	30,504	9,214	3,911	3,554
Meat extracts and bullion cubes—lbs.		[3] 153	485		[3] 212	529
Other meat, canned—lbs.			7,534	5,811	3,914	2,898
Other meat (including edible offal)—lbs.			47,135	6,025	4,047	4,483
Mutton and lamb—lbs.	7,255	2,502	1,869	1,291	425	331
Pork—						
Carcasses, fresh [5]—lbs.	57,075	22,826	9,461	11,135	3,315	1,338
Loins and other fresh parts—lbs.		[3] 3,085	34,040		[3] 547	5,437
Canned—lbs.	1,119	2,263	2,761	450	669	952
Cured—						
Hams and shoulders—lbs.	172,012	271,642	319,187	40,088	55,217	55,205
Bacon—lbs.	489,298	350,549	408,282	103,115	50,978	56,048
Pickled—lbs.	33,286	33,510	40,934	5,381	3,941	4,953
Total pork—lbs.	752,790	683,875	814,665	160,169	114,667	126,933

[1] Preliminary.
[2] July–Dec. 31.
[3] Jan. 1–June 30.
[4] Less than 500.
[5] Includes all fresh pork prior to Jan. 1, 1922.
[6] Less than 500.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMAL AND ANIMAL PRODUCTS—CON.						
Packing-house products—Con.						
Meat—Con.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Sausage—						
Canned ..... lbs.	4,430	1,964	2,694	$1,488	$624	$711
Other ..... lbs.	4,927	7,208	7,719	1,783	2,250	2,058
Poultry and game—						
Fresh ..... lbs.	.....	.....	5,906	1,066	1,789	1,744
Canned ..... lbs.	.....	[2] 297	126	.....	[2] 114	46
Total meats	.....	.....	.....	188,847	131,953	143,292
Oils—						
Oleo oil ..... lbs.	106,415	117,174	104,956	15,212	12,367	12,068
Neat's-foot oil ..... lbs.	.....	[2] 471	1,233	.....	[2] 84	188
Stearins and fatty acids .. lbs.	19,177	[2] 20,594	.....	2,430	[2] 2,082	.....
Oleo and lard stearin ..... lbs.	.....	[2] 5,419	10,104	.....	[2] 523	1,047
Grease stearin ..... lbs.	.....	[2] 1,791	3,025	.....	[2] 141	287
Oleic acid or red oil .. lbs.	.....	[2] 1,783	2,379	.....	[2] 141	202
Stearic acid ..... lbs.	.....	[2] 2,973	3,653	.....	[2] 282	399
Other fatty acids .... lbs.	.....	.....	[2] 66	.....	.....	[2] 7
Oleomargarine ..... lbs.	6,219	1,989	2,028	1,479	354	428
Tallow ..... lbs.	16,844	[2] 8,956	.....	1,920	[2] 607	.....
Edible ..... lbs.	.....	[2] 1,007	1,914	.....	[2] 80	161
Inedible ..... lbs.	.....	[2] 17,695	23,751	.....	[2] 1,181	1,939
Oleo stock ..... lbs.	.....	8,564	12,521	.....	806	1,359
Bones, hoofs, and horns ..... lbs.	.....	.....	6,301	118	172	310
Hair, (unmanufactured) : ... lbs.	.....	.....	.....	735	[2] 259	.....
Cattle ..... lbs.	.....	[2] 4,071	7,343	.....	[2] 295	422
Other ..... lbs.	.....	[2] 3,337	8,061	.....	[2] 301	824
Hides and skins (other than furs)—						
Calf ..... lbs.	3,148	4,939	3,158	629	1,099	764
Cattle ..... lbs.	8,803	26,686	11,200	1,251	2,687	1,796
Horses, asses, and mules .. lbs.	314	.....	.....	56	.....	.....
Sheep and goat ..... lbs.	.....	[2] 740	974	.....	[2] 148	227
Other (including fresh and pickled splits) ..... lbs.	3,042	4,634	5,656	908	639	709
Total hides and skins .. lbs.	.....	.....	.....	2,844	4,573	3,496
Lard compounds ..... lbs.	42,156	30,328	11,140	6,100	3,515	1,397
Other animal oils, n. e. s .... lbs.	.....	.....	51,540	[4] 4,603	4,475	4,257
Lard ..... lbs.	746,157	812,379	952,642	131,329	95,007	116,594
Neutral lard ..... lbs.	22,544	19,573	26,494	4,199	2,420	3,424
Lard oil ..... lbs.	670	493	737	67	51	89
Sausage casings ..... lbs.	29,895	27,769	20,043	5,899	5,814	4,934
Other animal products, n. e. s. ..... lbs.	.....	[2] 894	2,177	.....	[2] 69	223
Total packing-house products ..	.....	.....	.....	363,792	267,552	297,347
Total animal products	.....	.....	.....	445,037	330,207	338,382
VEGETABLE PRODUCTS.						
Broom corn ..... tons.	3	4	4	513	456	882
Cocoa and chocolate (prepared or manufactured) ..... lbs.	.....	.....	.....	1,991	[2] 308	.....
Cocoa, powdering ..... lbs.	.....	[2] 8,421	8,071	.....	[2] 338	387
Chocolate (including sweetened) ..... lbs.	.....	[2] 362	974	.....	[2] 82	224
Coffee:						
Green ..... lbs.	29,577	29,793	26,272	5,827	5,434	4,950
Roasted ..... lbs.	1,225	1,130	1,319	360	288	361
Total coffee ..... lbs.	.....	.....	.....	6,187	5,722	5,311

[1] Preliminary.
[2] Jan. 1–June 30.
[3] July 1–Dec. 31, 1921.
[4] Includes soap stock.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Cotton (unmanufactured):	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Upland and other [2] ..... bales	5,570	[3] 3,762		$599,089	[3] $321,685	
Long staple (1⅛ in. or over)	(4)	(4)				
Sea Island [2] ..... bales			1	50	38	$148
Other [2] ..... do		[5] 570	886		[5] 59,140	114,285
Short staple (under 1⅛ in.) [2] ..... do		[5] 2,251	4,318		[5] 213,321	542,871
Linters [2] ..... do	53	120	48	1,047	2,195	1,679
Total cotton [2] ..... do	5,623	6,718	5,253	600,186	596,379	658,983
Flavoring extracts and fruit juices ..... lbs			1,744	1,236	799	642
Flowers, cut ..... lbs			116	159	101	88
Forest products:						
Barks and extracts of, for tanning—						
Chestnut ..... lbs		[5] 4,894	7,387		[5] 150	268
Other tanning extracts ..... lbs			24,847	1,732	1,104	1,168
Total barks and extracts				1,732	1,254	1,436
Logwood extracts ..... lbs			2,437	1,471	557	365
Other dye extracts ..... lbs			2,872	3,571	732	400
Dyeing and tanning material (crude) ..... tons	(6)	1	1	23	101	74
Moss ..... lbs			906	63	71	83
Naval stores, gums and resins—						
Rosin ..... bbls	877	786	1,040	10,363	6,621	10,164
Tar, turpentine and pitch ..... bbls	42	[3] 10		378	[3] 63	
Spirits of turpentine ..... galls	9,742	10,786	9,012	11,279	8,072	11,481
Wood turpentine ..... galls		265	398		207	331
Tar and pitch, wood ..... bbls		19	34		87	205
Other gums and resins ..... lbs		746	2,165		165	590
Total naval stores				22,020	15,215	22,771
Wood—						
Logs and round timber—						
Hardwoods ..... M ft	12	7	12	825	458	594
Softwoods:						
Southern yellow pine ..... M ft	5	8	3	227	308	140
Douglas fir ..... M ft	15	14	41	399	235	723
Cedar ..... M ft		[5] 28	57		[5] 949	2,284
Other soft woods ..... M ft	23	42	6	739	1,709	131
Total logs and round timbers				2,190	3,659	3,872
Lumber—						
Boards, deals and planks—						
Softwoods—						
Cypress ..... M ft	8	7	10	727	405	677
Douglas fir ..... M ft	379	678	[5] 228	12,672	14,640	[5] 5,236
Rough ..... M ft			[5] 229			[5] 6,325
Dressed ..... M ft			[5] 11			[5] 485
Southern yellow pine ..... M ft	513	458	[6] 241	27,735	15,740	[6] 9,581
Rough ..... M ft			[5] 251			[5] 10,596
Dressed ..... M ft			[5] 95			[5] 4,589
Western yellow pine ..... M ft	14	4	14	726	199	569
White pine ..... M ft	30	21	27	2,111	1,443	1,898
Redwood ..... M ft	36	25	45	2,702	1,388	2,813
Spruce ..... M ft	16	26	25	1,389	733	1,224
Western hemlock ..... M ft			[5] 30			[5] 739
Other softwoods ..... M ft	122	125	47	5,514	3,986	1,801
Total softwoods				53,636	38,534	46,533

[1] Preliminary.
[2] Bales of 500 pounds.
[3] July 1–Dec. 31, 1921
[4] Less than 500.
[5] Jan. 1–June 30.
[6] July 1–Dec. 31, 1922.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
VEGETABLE PRODUCTS—continued.						
Forest products—Continued.						
Wood—Continued.						
Lumber—Continued.						
Boards, deals and planks—Continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Hardwoods—						
Ash.....M ft.			[2] 15			[2] $680
Chestnut.....M ft.		[2] 4	10		[2] $273	805
Gum.....M ft.	25	37	54	$1,963	1,905	2,963
Hickory.....M ft.		[2] 1	3		[2] 82	237
Oak.....M ft.	78	88	138	8,451	5,933	9,045
Poplar.....M ft.	10	14	19	1,221	1,388	1,849
Walnut.....M ft.		[2] 2	6		[2] 279	878
Other hardwoods.....M ft.	38	53	56	5,224	4,280	5,062
Total hardwoods				16,862	14,140	22,119
Total boards, deals and planks				70,498	52,674	68,652
Laths.....thousands		[2] 6	42		[2] 48	267
Shingles.....thousands	26	26	26	158	131	154
Shooks—						
Box.....Ft. b. m.			[3] 30,497	3,855	1,954	[3] 1,017
Southern yellow pine.Ft. b. m.			[2] 16,177			[2] 690
Other.....Ft. b. m.			[2] 31,296			[2] 1,031
Cooperage.....sets	1,051	[2] 231		4,575	[2] 774	
Tight.....sets		[2] 343	1,390		[2] 1,057	4,038
Slack.....sets		[2] 168	209		[2] 95	93
Total shooks				8,430	3,880	6,839
Cooperage—						
Staves.....no.	65,710	[3] 12,165		10,001	[3] 955	
Tight.....no.		[2] 7,105	21,400		[2] 789	3,038
Slack.....no.		[2] 15,892	36,075		[2] 289	776
Total staves				10,001	2,033	3,814
Heading.....sets				745	204	380
Total staves and headings				10,746	2,237	4,194
Pulp wood.....cu. ft.		[2] 1,791	1,303		[2] 138	92
Railroad ties.....no.	5,040	[2] 1,014		7,099	[2] 1,304	
Hardwoods.....no.		[2] 250	643		[2] 366	879
Softwoods.....no.		[2] 665	1,817		[2] 507	1,605
Total ties				7,099	2,207	2,484
Piling.....linear feet					[2] 128	324
Telegraph, trolley and electric light poles.....no.		[2] 11	30		[2] 90	214
Other lumber.....Ft. b. m.			9,512	4,659	1,247	406
Total lumber				101,590	62,840	83,626
Timber, hewn and sawed—						
Hardwoods—						
Oak.....M ft.		[2] 1	3		[2] 45	166
Other hardwoods..M ft.	6	5	2	445	289	110
Softwoods—						
Southern yellow pine.....M ft.	96	118	172	4,003	3,406	6,794
Douglas fir.....M ft.		[2] 97	179		[2] 2,090	4,514
Cedar.....M ft.		[2] 4	19		[2] 184	1,013
Other softwoods...M ft.	21	43	9	663	1,023	269
Total timber, hewn and sawed				5,111	7,037	12,886
All other, including firewood.....cu. ft.			2,568	342	279	211
Total wood				109,233	73,815	100,695

[1] Preliminary. [2] Jan. 1–June 30. [3] July 1–Dec. 31.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Year ending June 30. Quantity. 1920–21	Quantity. 1921–22	Quantity. 1922–23 [1]	Value. 1920–21	Value. 1921–22	Value. 1922–23 [1]
VEGETABLE PRODUCTS—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Wood alcohol.....gals..	468	737	1,528	$1,032	$566	$1,333
Wood pulp.....tons..	27			2,731		
Sulphite.....tons..		[2] 10	14		[2] 433	802
Soda.....tons..		[2] 2	3		[2] 162	301
Other.....tons..		13	2		680	82
Total wood pulp				2,731	1,275	1,185
Total forest products				141,876	93,586	128,242
Fruits:						
Subtropical fruits—						
Grapefruit.....boxes..		[2] 140	252		[2] 456	831
Lemons.....do....	311	234	159	1,118	1,212	909
Oranges.....do....	2,001	1,641	1,799	7,875	7,535	7,561
Pineapples.....do....		[2] 27	37		[2] 131	157
Others.....lbs..		[2] 2,575	2,338		[2] 50	68
Other fruits, fresh (green or ripe)—						
Apples.....bbls..	2,665	[3] 570		18,813	[3] 4,394	
Apples in boxes.....boxes..		[2] 1,395	3,491		[2] 3,813	6,525
Apples in barrels.....bbls..		[2] 59	593		[3] 410	2,073
Berries.....lbs..			8,180	789	1,032	881
Grapes.....lbs..		[2] 172	14,022		[3] 29	1,051
Pears.....lbs..			36,785	2,215	1,477	1,617
Peaches.....lbs..		[2] 611	13,195		[2] 36	584
Others.....lbs..			34,337	4,319	3,019	1,425
Total fresh				35,129	23,594	24,282
Dried and evaporated—						
Apples.....lbs..	18,053	12,431	12,827	1,864	1,772	1,447
Apricots.....lbs..	8,332	16,736	11,193	1,745	3,231	2,617
Peaches.....lbs..	3,573	6,260	5,586	523	741	711
Prunes.....lbs..	57,461	109,398	79,229	5,474	9,755	7,583
Raisins.....lbs..	24,492	49,630	93,962	5,292	8,029	10,284
Other dried.....lbs..			10,632	1,089	1,015	1,352
Total dried and evaporated				15,987	24,543	23,994
Fruit pulp (cannery waste)..lbs..	2,404	1,348	1,565	95	46	47
Total fresh and dried fruits				51,211	48,183	48,323
Preserved—						
Canned—						
Apricots.....lbs..			13,809			1,187
Cherries.....lbs..		350	2,251		59	369
Peaches.....lbs..			54,624	3,601	4,998	5,388
Pears.....lbs..			49,358	3,851	4,254	6,105
Pineapples.....lbs..			21,848	2,064	2,579	2,346
Plums.....lbs..		952	1,983		78	174
Others canned.....lbs..			63,388	3,612	4,405	6,910
Total canned				13,128	16,373	22,479
Others preserved (jams and jellies).....lbs..			2,219	1,000	514	458
Total preserves				14,128	16,887	22,937
Total fruits				65,339	65,070	71,260
Ginseng.....lbs..	157	190	175	1,624	1,605	2,417
Other crude vegetable drugs.....lbs..			4,235	836	761	970
Total vegetable drugs				2,460	2,366	3,387
Glucose and grape sugar:						
Glucose (corn sirup).....lbs..	125,972	258,448	156,315	5,023	6,110	4,788
Grape sugar (corn sugar).....lbs..	15,982	15,534	6,379	857	448	226
Total				5,860	6,558	5,014

[1] Preliminary. [2] Jan. 1–June 30. [3] July 1–Dec. 31.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Quantity. Year ending June 30.			Value. Year ending June 30.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Grain and grain products (breadstuffs):	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Grain—						
Barley.....bush.	20,457	22,400	18,193	$25,184	$16,614	$13,592
Buckwheat.....bush.	399	383	140	637	405	152
Corn.....bush.	66,911	176,386	94,064	60,031	115,862	75,031
Oats.....bush.	4,302	15,987	18,574	3,732	7,985	9,282
Rice.....lbs.	[2] 440,855	[2] 507,898	318,941	[2] 19,313	[2] 18,905	12,379
Rye.....bush.	45,735	29,684	51,412	92,734	32,898	47,513
Wheat.....bush.	293,268	208,321	154,961	689,813	279,656	192,015
Total grain				891,444	472,325	349,904
Grain products—						
Hominy and grits.....lbs.		[2] 208,036	79,979		[2] 3,553	1,335
Other corn products for table use.....lbs.		[2] 1,008	5,081		[2] 56	303
Bread, biscuit, etc.....lbs.	12,264	7,055	9,480	2,512	953	1,303
Macaroni, spaghetti, etc.lbs.		[2] 4,689	6,292		[2] 370	502
Other wheat products for table use.....lbs.		[2] 1,933	4,229		[2] 101	321
Meal and flour—						
Barley flour.....bbls.	(4)			(4)		
Buckwheat flour.....lbs.		[2] 2,836	892		[2] 100	42
Cornmeal and flour..bbls.	999	776	634	7,277	2,634	2,469
Oatmeal and rolled oats.....lbs.	91,598	94,491	123,115	4,203	3,457	4,406
Rice flour, meal and broken rice.....lbs.		[3] 33,611	51,729		[3] 735	1,142
Rye flour.....bbls.	267	43	42	2,717	230	213
Wheat flour.....bbls.	10,180	15,797	14,883	154,524	97,386	83,991
Total meal and flour				168,721	104,542	92,263
Cereal breakfast foods.....lbs.			11,050	5,235	2,152	1,095
Other grains and flours.....lbs.			6,467	3,211	1,423	375
Total breadstuffs				1,071,123	585,475	447,371
Fodders and feeds:						
Hay.....tons.	50	55	47	1,213	1,044	940
Mill feed—						
Bran and middlings...tons.	5	14	3	183	309	97
Corn feeds.....tons.		[2] 3	1		[2] 70	23
Screenings.....lbs.		3,260	10,037		67	167
Sorgum, kafir, and milo maize.....bush.		[2] 53	58		[2] 35	53
Prepared feeds not medicinal.....lbs.		11,263	19,664		189	401
Other mill feeds.....tons.	10	22	34	553	623	706
Dried grain and malt sprouts.....tons.	(4)			7		
Oil cake, and oil-cake meal:						
Cake—						
Cocoanut cake.....lbs.	473	14,725	3,860	12	177	66
Corn cake.....lbs.	1,795	3,596	686	30	62	12
Cottonseed cake.....lbs.	356,987	415,257	342,544	7,304	8,506	7,789
Linseed cake.....lbs.	373,079	469,397	536,555	9,935	10,423	11,577
Peanut cake.....lbs.		[2] 14,493	692		[2] 154	12
Other cake.....lbs.	9,373	42,954	3,092	234	705	68
Meal—						
Cottonseed meal.....lbs.	94,714	117,464	111,806	1,858	2,330	2,202
Linseed meal.....lbs.	18,185	14,661	38,057	450	320	841
Other oil cake.....lbs.		[2] 6,698	2,732		[2] 93	54
Total oil cake and oil-cake meal.....lbs.	857,606	1,099,245	1,040,024	19,513	22,770	22,719
Total fodders and feeds				21,469	25,107	25,111

[1] Preliminary.
[2] Includes rice flour and broken rice prior to Jan. 1, 1922.
[3] Jan. 1–June 30, 1922.
[4] Less than 500.
[5] Included in rice grain from July 1 to Dec. 31, 1921.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Year ending June 30.					
	Quantity.			Value.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.	*Thousands.*	*Thousands*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Malt.....bush.	7,477	5,654	4,089	$11,147	$5,824	$3,970
Glue, vegetable.....lbs.		[2] 499	715		[2] 56	82
Hops.....lbs.	22,206	19,522	13,497	10,873	4,852	2,589
Liquors, alcoholic:						
Beverages, malt.....galls.	14	45	184	29	43	137
Spirits, distilled.....galls.	334	186	370	1,205	677	1,116
Wines.....galls.	39	21	38	60	27	29
Other beverages.....galls.			160	1,715	391	175
Total beverages				3,009	1,138	1,457
Nursery and green house stock				398	[2] 119	
Fruit stock, cuttings or seedlings.....No.		[2] 837	1,877		[2] 82	148
All other stock, plants and bulbs.....No.		[2] 2,586	4,558		[2] 120	199
Total				398	321	347
Nuts:						
Peanuts.....lbs.	13,149	12,858	8,716	1,063	815	681
Other nuts.....lbs.			4,818	728	744	725
Total nuts.....lbs.				1,791	1,559	1,406
Oils, vegetable:						
Fixed or expressed—						
Coconut oil.....lbs.	6,639	10,185	12,993	887	885	1,088
Cottonseed oil.....lbs.	283,268	[2] 52,263		31,393	[2] 4,584	
Crude.....lbs.		[2] 20,473	25,943		[2] 1,609	2,258
Refined.....lbs.		[2] 18,879	38,358		[2] 2,207	4,239
Total cottonseed oil				31,393	8,400	6,497
Corn oil.....lbs.	6,919	5,280	5,224	1,033	588	652
Linseed oil.....lbs.	4,210	2,744	3,105	719	299	410
Peanut oil.....lbs.	1,595	1,802	188	224	185	21
Soy-bean oil.....lbs.	5,118	537	2,495	760	35	219
Cocoa butter.....lbs.	3,171	1,856	957	988	505	287
Vegetable oleomargarines.....lbs.		[2] 154	1,736		[2] 21	236
Vegetable oil lard compounds.....lbs.		[2] 13,820	17,984		[2] 1,604	2,221
Vegetable soap stock.....lbs.		[2] 6,436	3,601		[2] 343	239
Other vegetable oils and fats.....lbs.			8,063	1,015	581	863
Total fixed or expressed				37,019	13,446	12,733
Volatile or essential—						
Peppermint.....lbs.	50	155	103	287	315	291
Other.....lbs.			584	890	522	611
Total volatile				1,177	837	902
Total vegetable oils				38,196	14,283	13,635
Seeds:						
Oil seeds.....lbs.		2,504	2,722		98	95
Cottonseed.....lbs.	4,811			247		
Flax or linseed.....lbs.	1			4		
Total oil seeds				251	98	95
Seeds for sowing—						
Field and forage plant seeds—						
Alfalfa.....lbs.		[2] 778	400		[2] 147	76
Clover—						
Red.....lbs.		[2] 747	1,839		[2] 170	365
Other.....lbs.	5,420	3,259	2,492	1,245	632	524
Timothy.....lbs.	14,990	20,150	20,132	1,228	1,350	1,401
Other grass seeds.....lbs.	5,408	4,094	4,091	344	686	648
Other field and forage plant seeds.....lbs.		[2] 2,384	4,152		[2] 125	222
Vegetable and flower seeds.....lbs.		[2] 8,515	4,409		[2] 673	821
All other seeds				1,377	531	
Total seeds for sowing				4,689	4,314	4,057
Total all seeds				4,940	4,407	4,152

[1] Preliminary. [2] Jan. 1–June 30, 1922. [3] July 1–Dec. 31, 1921.

TABLE 653.—*Agricultural exports (domestic) of the United States, 1921–1923*—Continued.

Article exported.	Year ending June 30. Quantity. 1920–21	Quantity. 1921–22	Quantity. 1922–23 [1]	Value. 1920–21	Value. 1921–22	Value. 1922–23 [1]
VEGETABLE PRODUCTS—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Spices.....lbs.			1,642	$322	$167	$201
Starch:						
Cornstarch.....lbs.	110,514	348,940	254,060	4,251	7,295	6,741
Other starch.....lbs.	24,850	37,933	6,736	1,146	904	239
Total starch.....				5,397	8,199	6,980
Stearin, vegetable.....lbs.	1,848	1,949	504	224	195	56
Sugar, molasses, and sirup:						
Molasses.....galls.	5,386	5,775	4,773	1,125	697	528
Sirup (including maple).....galls.	4,568	6,741	5,905	1,734	1,855	1,584
Sugar (including maple).....lbs.	582,698	2,002,039	749,855	43,740	77,495	41,003
Total sugar, molasses, and sirup.....				46,599	80,047	43,115
Tobacco (unmanufactured):						
Leaf tobacco.....lbs.	496,879	451,888	[2] 229,472	237,051	156,773	[2] 77,846
Bright flue-cured.....lbs.			[2] 57,092			[2] 22,715
Burley.....lbs.			[2] 3,464			[2] 874
Dark-dried Kentucky and Tennessee.....lbs.			[2] 73,451			[2] 13,870
Dark Virginia.....lbs.			[2] 34,719			[2] 17,967
Maryland and Ohio export.....lbs.			[2] 5,335			[2] 563
Green River (Pryor).....lbs.			[2] 10,054			[2] 2,844
Cigar leaf.....lbs.			[2] 252			[2] 209
Other leaf.....lbs.			[2] 31,347			[2] 8,737
Total leaf tobacco.....				237,051	156,773	145,625
Stems, trimmings, and scrap.lbs.	9,648	11,500	9,224	472	544	607
Total tobacco (unmanufactured).....				237,523	157,317	146,232
Vegetables:						
Dried—						
Beans.....bush.	1,216	1,100	672	4,563	3,745	2,483
Peas.....bush.	165	89	95	841	324	411
Fresh—						
Potatoes (white).....bush.	4,803	2,327	2,981	8,499	3,411	3,190
Onions.....bush.	1,014	658	703	1,464	1,457	994
Others, fresh.....lbs.			80,277	2,988	2,884	3,130
Prepared or preserved—						
Canned—						
Asparagus.....lbs.		[2] 2,334	8,507		[2] 378	1,494
Beans.....lbs.		[4] 4,111	5,636		[2] 325	470
Corn.....lbs.			2,882	215	202	235
Peas.....lbs.		[2] 883	3,073		[2] 87	280
Soups.....lbs.			12,783	1,243	1,180	1,381
Tomatoes.....lbs.			8,917	680	459	505
Other canned.....lbs.			3,204	2,496	1,090	311
Pickles and sauces.....lbs.			11,867	1,910	1,675	1,590
Dried or dehydrated.....lbs.		[2] 285	453		[2] 34	57
Other vegetable preparations.		[2] 486	892		[2] 56	97
Total vegetables.....				24,899	17,307	16,688
Vinegar.....galls.	225	198	193	87	62	62
Yeast.....lbs.			2,751	676	663	695
Other vegetable products n. e. s.lbs.		[2] 634	2,674		[2] 6	61
Total vegetable products, including forest products.....				2,304,480	1,678,750	1,588,631
Total vegetable products, excluding forest products.....				2,162,604	1,585,164	1,460,389
Total agricultural exports, including forest products.....				2,749,517	2,008,957	1,927,013
Total agricultural exports, excluding forest products.....				2,607,641	1,915,371	1,798,771

Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

[1] Preliminary. [2] July 1–Dec. 31. [3] Jan. 1–June 30.

TABLE 654.—*Value of principal groups of farm and forest products exported from and imported into the United States, year ending June 30, 1921–1923.*

Article.	Exports (domestic merchandise).			Imports.		
	1920-21	1921-22	1922-23[1]	1920-21	1921-22	1922-23[1]
FARM PRODUCTS.						
Animal products.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Animals, live	$17,711	$14,951	$6,919	$27,785	$5,850	$9,628
Dairy products	47,970	36,375	23,327	27,356	17,522	28,216
Eggs, fresh, canned, etc	11,453	10,148	9,400	9,614	4,723	4,356
Feathers, crude	441	280	318	2,281	2,119	3,215
Packing-house products	363,792	267,552	297,347	154,246	105,905	171,409
Silk				190,320	307,283	413,567
Wool	2,259	200	123	77,902	45,649	167,191
Other animal products	1,411	701	948	5,844	3,522	8,132
Total animal products	445,037	330,207	338,382	495,348	492,573	805,714
Vegetable products.						
Argols or wine lees				3,032	1,218	1,730
Cocoa and chocolate	1,991	728	611	31,293	27,804	35,096
Coffee	6,187	5,722	5,311	176,958	148,503	181,639
Cotton	600,186	596,379	658,983	44,666	43,958	60,640
Fibers, vegetable, other				57,025	27,831	47,695
Fruits	65,339	65,070	71,260	49,933	47,362	44,650
Ginseng	1,624	1,605	2,417			
Glucose and grape sugar	5,860	6,558	5,014			
Grain and grain products	1,071,123	585,475	447,371	134,112	28,366	29,827
Hay	1,213	1,044	940	2,442	85	345
Hops	10,873	4,852	2,589	2,283	341	257
Indigo				521	304	26
Liquors, alcoholic, beverages, etc	3,009	1,138	1,457	5,317	3,045	1,156
Nursery stock	398	321	347		5,017	7,298
Nuts	1,791	1,559	1,406	24,301	33,069	25,913
Oil cake and meal	19,513	22,770	22,719	3,707	1,660	2,016
Oil, vegetable	38,196	14,283	13,635	56,122	58,582	68,353
Seeds	4,940	4,407	4,152	64,831	48,832	76,138
Spices	322	167	201	7,325	8,316	10,556
Starch	5,397	8,199	6,980	616	357	406
Sugar, molasses, and sirup	46,599	80,047	43,115	668,940	202,783	368,794
Tea				17,587	18,040	26,308
Tobacco	237,523	157,317	146,232	63,220	57,050	69,225
Vanilla beans				1,751	2,279	2,884
Vegetables	24,899	17,307	16,688	22,715	20,225	21,838
Wax, vegetable				1,600	1,013	1,501
Other vegetable products	15,621	10,216	8,961	1,162	459	3,954
Total vegetable products	2,162,604	1,585,164	1,460,389	1,446,489	786,499	1,068,254
Total farm products	2,607,641	1,915,371	1,798,771	1,941,837	1,279,072	1,893,968
FOREST PRODUCTS.						
Cork wood or cork bark				2,373	1,024	1,826
Dyewoods and tanning materials	23	251	342	4,128	2,231	3,577
Gums, resins, and balsams				34,622	27,475	41,736
Naval stores	22,020	15,215	22,771			
Dyeing and tanning extracts	6,774	2,393	1,933	7,263	5,635	5,280
Wood	109,233	73,815	100,595	70,286	61,492	94,145
Wood pulp	2,731	1,275	1,185	76,191	49,678	74,190
Other forest products	1,095	637	1,416	148,278	102,052	191,408
Total forest products	141,876	93,586	128,242	343,141	249,587	412,162
Total farm and forest products	2,749,517	2,008,957	1,927,013	2,284,978	1,528,659	2,306,130

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

[1] Preliminary

TABLE 655.—*Exports of selected domestic agricultural products, 1852–1923.*

Year ending June 30.	Cattle.	Cheese.	Packing-house products.							
			Beef, cured—salted or pickled.	Beef, fresh.	Beef oils—oleo oil.	Beef tallow.	Beef and its products—total, as far as ascertainable.[1]	Pork, cured—bacon.	Pork, cured—hams and shoulders.	Pork, cured salted or pickled.
	Thousands.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:										
1852–1856	1	6,200	25,981	----------	----------	7,469	33,449	30,005	----------	46,54[illegible]
1857–1861	20	13,996	26,986	----------	----------	13,215	40,200	30,583	----------	34,35[illegible]
1862–1866	7	42,683	27,663	----------	----------	43,203	70,865	10,797	----------	52,57[illegible]
1867–1871	----------	52,681	26,955	----------	----------	27,578	54,532	45,790	----------	28,87[illegible]
1872–1876	46	87,174	35,827	----------	----------	78,994	114,821	313,402	----------	60,4[illegible]
1877–1881	127	129,676	40,175	69,601	----------	96,623	218,710	643,634	----------	85,9[illegible]
1882–1886	132	108,790	47,401	97,328	30,276	48,745	225,626	355,905	47,635	72,375
1887–1891	244	86,355	65,614	136,448	50,482	91,008	411,798	419,935	60,697	73,985
1892–1896	349	66,906	64,899	207,373	102,039	56,977	507,177	438,848	90,107	64,827
1897–1901	415	46,109	52,242	305,626	139,373	86,082	637,268	530,287	200,853	112,788
1902–1906	508	19,244	59,208	272,148	156,925	89,893	622,843	292,722	206,891	116,823
1907–1911	254	9,152	46,187	144,860	170,530	66,356	448,024	209,005	189,603	90,810
1912–1916	35	22,224	31,440	86,135	99,892	24,476	281,576	306,012	203,076	52,946
1900–1	459	39,814	55,313	351,748	161,651	77,167	705,105	456,123	216,572	139,644
1901–2	393	27,203	48,633	301,824	138,546	34,066	596,255	383,151	227,653	175,806
1902–3	402	18,987	52,801	254,796	126,010	27,369	546,055	207,336	214,183	95,287
1903–4	593	23,335	57,585	299,580	165,184	76,924	663,147	249,666	194,949	112,225
1904–5	568	16,134	55,935	236,487	145,228	63,537	575,875	262,247	203,459	118,887
1905–6	584	16,562	81,088	268,054	209,658	97,567	732,885	361,211	194,211	141,821
1906–7	423	17,285	62,645	281,852	195,337	127,858	689,752	250,419	209,481	166,427
1907–8	349	8,429	46,958	201,154	212,541	91,398	579,303	241,190	221,770	149,506
1908–9	208	6,823	44,494	122,953	179,985	58,333	418,844	244,579	212,170	52,355
1909–10	139	2,847	36,554	75,780	126,092	29,380	280,296	152,163	146,885	40,032
1910–11	150	10,367	40,284	42,511	138,697	29,813	265,924	156,675	157,709	45,729
1911–12	106	6,338	38,098	15,264	126,467	30,451	233,925	208,574	204,044	56,321
1912–13	25	2,599	25,857	7,362	92,850	30,586	170,208	200,994	159,545	53,749
1913–14	18	2,428	23,266	6,394	97,017	15,813	151,212	193,964	165,882	45,563
1914–15	5	55,363	31,875	170,441	80,482	20,240	304,981	346,718	203,701	45,656
1915–16	21	44,394	38,115	231,214	102,646	16,289	457,556	579,800	282,209	63,461
1916–17	13	66,050	58,054	197,177	67,110	15,209	423,674	667,152	206,657	40,993
1917–18	18	44,303	54,468	370,083	56,603	5,015	600,132	815,294	419,572	33,222
1918–19	42	18,792	45,066	332,205	59,292	16,172	591,302	1,238,247	667,240	31,504
1919–20	82	19,376	32,364	153,561	74,529	32,937	368,002	803,667	275,456	41,643
1920–21	146	10,836	23,313	21,084	106,415	16,844	203,815	489,298	172,012	33,286
1921–22	155	7,471	26,774	3,993	117,174	27,676	222,462	350,549	271,642	33,510
1922–23[2]	61	8,446	24,185	4,077	104,956	25,665	194,962	408,282	319,187	40,934

[1] Includes canned, cured, and fresh beef, oleo oil, oleo stock, oleomargarine, tallow, and stearin from animal fats.
[2] Preliminary.

TABLE 655.—*Exports of selected domestic agricultural products, 1852–1923*—Con.

Year ending June 30.	Packing-house products. Pork—lard.	Pork and its products—total, as far as ascertainable.[1]	Lard compounds.	Apples, fresh.	Corn and corn meal (in terms of grain).	Cotton.	Glucose and grape sugar.	Corn-oil cake and oil-cake meal.	Cotton-seed oil-cake and oil-cake meal.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 barrels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:									
1852–1856	33,355	103,903	----------	37	7,123	1,110,498	----------	----------	----------
1857–1861	37,966	103,404	----------	57	6,558	1,125,715	----------	----------	----------
1862–1866	89,138	252,486	----------	119	12,060	137,582	----------	----------	----------
1867–1871	53,579	128,249	----------	----------	9,924	902,410	----------	----------	----------
1872–1876	194,198	568,029	----------	133	38,561	1,248,805	----------	----------	----------
1877–1881	331,466	1,075,793	----------	510	88,190	1,738,892	----------	----------	----------
1882–1886	263,425	739,456	----------	402	49,902	1,968,178	4,474	----------	----------
1887–1891	381,389	936,248	----------	523	54,606	2,439,650	27,686	----------	----------
1892–1896	451,547	1,052,134	----------	521	63,980	2,736,655	125,574	----------	----------
1897–1901	652,418	1,528,139	21,792	780	192,531	3,447,910	209,280	----------	1,005,100
1902–1906	592,131	1,242,137	52,954	1,369	74,615	3,632,268	154,867	21,888	1,066,790
1907–1911	519,746	1,028,997	75,765	1,226	56,568	4,004,770	145,065	61,733	989,738
1912–1916	487,056	1,109,488	62,221	1,786	38,774	4,469,202	183,141	54,361	1,151,609
1900–1	611,358	1,462,370	23,360	884	181,405	3,359,062	204,210	12,703	1,258,687
1901–2	556,840	1,337,316	36,202	460	28,029	3,528,975	130,420	14,740	1,050,466
1902–3	490,756	1,042,120	46,130	1,656	76,639	3,569,142	126,240	8,093	1,100,393
1903–4	561,303	1,146,255	53,604	2,018	58,222	3,089,856	152,769	14,015	820,349
1904–5	610,239	1,220,032	61,215	1,500	90,293	4,339,322	175,251	24,171	1,251,908
1905–6	741,517	1,464,960	67,621	1,209	119,894	3,634,045	189,656	48,421	1,110,835
1906–7	627,560	1,268,005	80,149	1,539	86,368	4,518,217	151,629	56,809	1,340,967
1907–8[2]	603,414	1,237,211	75,183	1,050	55,064	3,816,999	129,687	66,128	929,287
1908–9	528,523	1,053,142	75,183	896	37,665	4,447,985	112,225	53,234	1,233,750
1909–10	362,928	707,110	74,557	922	38,128	3,206,708	149,820	49,109	640,089
1910–11	476,108	879,455	73,754	1,721	65,615	4,033,941	181,963	83,385	804,597
1911–12	532,256	1,071,952	62,523	1,456	41,797	5,535,125	171,156	72,490	1,293,690
1912–13	519,025	984,697	67,457	2,150	50,780	4,562,296	200,149	76,263	1,128,092
1913–14	481,458	921,913	58,304	1,507	10,726	4,760,941	199,531	59,031	799,974
1914–15	475,532	1,106,180	69,981	2,352	50,668	4,403,578	158,463	45,026	1,479,065
1915–16	427,011	1,462,697	52,843	1,466	39,897	3,084,070	186,406	18,996	1,057,222
1916–17	444,770	1,501,948	56,359	1,740	66,753	3,088,081	214,973	15,758	1,150,160
1917–18	302,506	1,602,124	31,278	635	49,073	2,320,512	97,858	458	44,681
1918–19	724,771	2,704,694	128,157	1,576	23,019	2,762,947	136,230	562	311,624
1919–20	587,225	1,762,611	44,196	1,051	16,729	3,543,743	245,264	511	449,573
1920–21	746,157	1,522,162	42,156	2,665	70,906	2,811,389	141,954	1,795	454,701
1921–22	812,379	1,516,320	30,328	1,094	179,490	3,358,879	273,982	3,596	532,721
1922–23[3]	952,642	1,794,538	11,140	1,756	96,599	2,626,732	162,693	686	454,350

Year ending June 30.	Prunes.	Tobacco.	Hops.	Oils, vegetable—cotton-seed oil.	Rice and rice bran, meal, and polish.	Sugar, raw and refined.	Wheat.	Wheat flour.	Wheat and wheat flour (in terms of grain).
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 barrels.*	*1,000 bushels.*
Average:									
1852–1856	----------	140,184	1,163	----------	56,515	7,730	4,715	2,892	19,173
1857–1861	----------	167,711	2,216	----------	65,732	6,015	12,378	3,318	28,970
1862–1866	----------	140,208	4,719	----------	2,258	3,008	22,530	3,531	40,184
1867–1871	----------	194,754	6,487	----------	1,857	4,357	22,107	2,585	35,032
1872–1876	----------	241,848	3,446	547	391	20,142	48,958	3,416	66,037
1877–1881	----------	266,315	10,446	4,498	602	41,718	107,781	5,376	133,263
1882–1886	----------	237,942	9,584	3,468	561	107,130	82,884	8,620	121,675
1887–1891	----------	259,248	7,184	7,121	3,210	75,074	64,739	11,287	115,529
1892–1896	----------	281,746	15,147	15,783	10,278	13,999	99,914	15,713	170,634
1897–1901	----------	304,402	15,467	42,863	18,407	11,214	120,247	17,151	197,427
1902–1906	48,551	325,539	11,476	38,606	45,978	14,807	70,527	15,444	140,026
1907–1911	47,089	334,396	14,774	38,784	27,195	61,430	62,855	11,841	116,138
1912–1916	72,599	408,006	18,533	39,801	60,043	470,729	129,415	13,185	188,748
1900–1	10,022	315,788	14,964	49,357	25,528	8,875	132,061	18,651	215,990
1901–2	23,359	301,007	10,715	33,043	29,591	7,572	154,856	17,789	234,773
1902–3	66,385	366,184	7,795	35,643	19,750	10,520	114,181	19,716	202,905
1903–4	73,146	311,972	10,986	29,014	29,122	15,419	44,230	16,999	120,728
1904–5	54,994	334,302	14,859	51,536	113,283	18,348	4,394	8,826	44,113
1905–6	24,870	312,227	13,027	43,794	38,142	22,176	34,973	13,919	97,609
1906–7	44,409	340,743	16,810	41,820	30,174	21,238	76,569	15,585	146,700
1907–8	28,148	330,813	22,920	41,020	28,444	25,511	100,371	13,927	163,044
1908–9	22,602	267,901	19,447	51,087	20,511	79,946	66,923	10,521	114,288
1909–10	89,015	357,196	10,589	29,861	26,779	125,507	46,680	9,041	87,394

[1] Includes canned, fresh, salted or pickled pork, lard, neutral lard, lard oil, bacon, and hams.
[2] Preliminary.

TABLE 655.—*Exports of selected domestic agricultural products, 1852–1923*—Con.

Year ending June 30.	Prunes.	Tobacco.	Hops.	Oil, vegetable—cottonseed oil.	Rice and rice bran, meal, and polish.	Sugar, raw and refined.	Wheat.	Wheat flour.	Wheat and wheat flour (in terms of grain).
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 barrels.*	*1,000 bushels.*
1910–11	51,031	355,327	13,105	30,069	30,063	54,947	23,729	10,129	69,312
1911–12	74,328	379,845	12,191	53,263	39,447	79,594	30,160	11,006	79,689
1912–13	117,951	418,797	17,591	42,031	38,908	43,995	91,603	11,395	142,880
1913–14	69,814	449,750	24,263	25,738	22,414	50,896	92,394	11,821	145,590
1914–15	43,479	348,346	16,210	42,449	77,480	549,007	259,643	16,183	332,465
1915–16	57,423	443,293	22,410	35,535	121,967	1,630,151	173,274	15,521	243,117
1916–17	59,645	411,569	4,825	21,188	181,372	1,248,908	149,831	11,943	203,574
1917–18	32,927	289,171	3,495	13,437	196,363	576,483	34,119	21,680	132,579
1918–19	59,072	629,288	7,467	23,828	193,128	1,115,865	178,583	24,182	287,402
1919–20	114,006	648,038	30,780	21,253	483,385	1,444,031	122,431	21,652	219,865
1920–21	57,461	506,526	22,206	37,769	440,855	582,698	293,268	16,180	366,077
1921–22	109,398	463,389	19,522	12,215	741,509	2,002,039	208,321	15,797	279,407
1922–23[1]	79,229	454,410	13,497	8,573	370,670	749,885	154,951	14,883	221,928

Division of Statistical and Historical Research.

Compiled from Foreign Commerce and Navigation of the United States, 1852-1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

Where figures are lacking, either there were no exports or they were not separately classified for publication. "Beef salted or pickled," and "Pork, salted or pickled," barrels, 1851-1865, were reduced to pounds at the rate of 200 pounds per barrel, and tierces, 1855–1865, at the rate of 300 pounds per tierce; cottonseed oil, 1910, pounds reduced to gallons at the rate of 7.5 pounds per gallon. It is assumed that 1 barrel of corn meal is the product of 4 bushels of corn, and 1 barrel of wheat flour the product of 5 bushels of wheat prior to 1880 and 4½ bushels of wheat in 1880 and subsequently.

[1] Preliminary.

TABLE 656.—*Imports of selected agricultural products, 1852–1923.*

Year ending June 30.	Cheese.	Silk.	Wool.	Almonds.	Argols or wine lees.	Cocoa and chocolate, total.	Coffee.	Corn	Oats, including oatmeal.	Wheat.
Average:	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1852–1856	1,054	----------	19,067	3,461	----------	2,487	196,583	----------	----------	2,122
1857–1861	1,378	----------	----------	3,251	----------	3,064	216,235	----------	----------	2,617
1862–1866	----------	----------	----------	2,482	1,355	2,453	124,552	----------	----------	----------
1867–1871	----------	682	----------	----------	2,361	3,503	248,726	75	----------	1,296
1872–1876	----------	1,095	----------	----------	4,951	4,857	307,007	57	[1] 515	1,308
1877–1881	----------	1,922	62,744	----------	12,403	6,315	384,282	42	[1] 126	871
1882–1886	----------	4,673	83,294	----------	17,552	11,568	529,579	24	----------	507
1887–1891	8,335	6,564	117,764	5,861	21,434	18,322	509,368	15	118	339
1892–1896	9,650	8,383	162,640	7,488	26,470	25,475	597,484	8	105	1,629
1897–1901	12,589	10,962	163,979	7,361	24,380	38,209	816,570	4	54	1,274
1902–1906	22,166	17,188	193,656	10,921	27,647	70,901	980,119	20	94	873
1907–1911	37,663	22,143	199,563	15,297	29,351	113,673	934,533	92	[1] 1,662	286
1912–1916	47,988	33,242	295,851	17,130	29,256	182,395	1,013,931	5,686	[1] 5,383	2,321
1900–1	15,329	10,406	103,584	5,140	28,599	47,620	854,871	5	32	600
1901–2	17,068	14,235	166,577	9,869	29,276	52,879	1,091,004	18	39	119
1902–3	20,671	15,271	177,138	8,142	29,967	65,047	915,086	41	150	1,077
1903–4	22,707	16,723	173,743	9,839	24,572	75,071	995,043	17	184	7
1904–5	23,096	22,357	249,136	11,745	26,282	77,383	1,047,793	15	56	3,103
1905–6	27,287	17,352	201,689	15,009	28,141	84,127	851,669	10	40	58
1906–7	33,849	18,744	203,848	14,234	30,541	97,060	985,321	11	91	375
1907–8	32,531	16,662	125,981	17,145	26,739	86,605	890,640	20	383	342
1908–9	35,548	25,188	266,409	11,029	32,116	132,661	1,049,869	258	6,692	41
1909–10	40,818	23,457	263,928	18,556	28,183	111,071	871,470	118	[1] 1,085	164
1910–11	45,569	26,666	137,648	15,523	29,175	140,971	875,367	52	[1] 107	509
1911–12	46,542	26,585	193,401	17,231	23,601	148,786	885,201	53	[1] 2,622	2,699
1912–13	49,388	32,102	195,293	15,671	29,479	143,510	863,131	903	[1] 724	798
1913–14	63,784	34,546	247,649	19,038	29,793	179,364	1,001,528	12,367	[1] 22,274	1,979
1914–15	50,139	31,053	308,083	17,111	28,625	194,734	1,118,691	9,898	[1] 631	426
1915–16	30,088	41,925	534,828	16,597	34,721	245,579	1,201,104	5,208	[1] 665	5,703
1916–17	14,482	40,351	372,372	23,424	23,926	340,483	1,319,871	2,267	[1] 762	24,139
1917–18	9,839	43,681	379,130	23,840	30,267	399,312	1,143,891	3,196	[1] 2,591	28,177
1918–19	2,442	50,069	422,415	30,328	32,228	313,195	1,046,029	3,311	551	11,121
1919–20	17,914	58,410	427,578	33,682	23,638	421,880	1,414,228	10,229	6,044	4,780
1920–21	16,585	34,778	318,236	20,497	26,486	328,447	1,348,926	5,743	3,796	51,004
1921–22	34,271	57,437	255,087	31,343	18,749	318,969	1,238,012	125	1,733	14,466
1922–23[2]	54,555	63,188	[3] 550,180	27,692	21,950	383,929	1,305,188	138	293	18,013

[1] Does not include oatmeal. [2] Preliminary. [3] Includes wooled sheep and lamb skins, dry and green.

TABLE 656.—*Imports of selected agricultural products, 1852–1923*—Continued.

Year ending June 30.	Wheat flour.	Wheat, including wheat flour.	Flaxseed.	Unmanufactured tobacco.	Flax.	Hemp.	Hops.	Jute and jute butts.	Licorice root.
Average:	*1,000 barrels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 long tons.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 pounds.*
1852–1856	411	4,178	1,133	5,044	1	2	----------	3	----------
1857–1861	----------	2,617	----------	5,154	----------	3	----------	17	1,373
1862–1866	----------	----------	1,037	----------	----------	----------	----------	3	1,888
1867–1871	104	1,818	----------	5,631	----------	----------	----------	15	----------
1872–1876	74	1,680	2,915	8,886	4	23	----------	49	----------
1877–1881	7	906	1,224	7,871	4	22	----------	62	----------
1882–1886	2	517	1,541	13,672	6	31	1,619	91	----------
1887–1891	3	352	1,838	21,640	7	37	7,772	105	59,275
1892–1896	1	1,634	1,181	25,871	7	5	2,386	84	86,445
1897–1901	1	1,280	404	16,958	7	4	2,382	94	87,476
1902–1906	27	993	234	33,805	9	5	5,206	102	99,543
1907–1911	93	706	3,249	42,813	10	6	6,770	100	96,111
1912–1916	150	2,996	9,227	55,550	9	7	5,839	105	80,459
1900–1	1	603	1,632	26,851	7	4	2,607	103	100,106
1901–2	(1)	121	477	29,429	8	6	2,805	129	109,077
1902–3	1	1,060	129	34,017	8	5	6,013	80	88,581
1903–4	47	218	213	31,163	10	6	2,758	97	89,463
1904–5	41	3,286	296	33,288	8	4	4,339	98	108,444
1905–6	45	262	52	41,126	9	5	10,114	104	102,152
1906–7	48	590	90	40,899	9	9	6,212	104	66,116
1907–8	40	520	57	35,005	10	6	8,493	108	109,356
1908–9	92	457	594	43,123	10	5	7,387	157	97,743
1909–10	145	816	5,002	46,853	13	6	3,201	68	82,207
1910–11	142	1,147	10,499	48,203	8	5	8,558	65	125,135
1911–12	159	3,414	6,842	54,740	11	5	2,991	101	74,582
1912–13	108	1,282	5,294	67,977	12	8	8,494	125	105,116
1913–14	90	2,384	8,653	61,175	10	9	5,382	106	115,636
1914–15	64	715	10,666	45,809	5	5	11,651	83	65,959
1915–16	330	7,188	14,679	48,078	7	7	676	108	41,003
1916–17	175	24,925	12,394	49,105	8	10	237	113	59,400
1917–18	675	31,215	13,367	86,991	6	7	121	78	26,983
1918–19	37	11,289	8,427	83,951	9	2	----------	53	42,684
1919–20	159	5,496	23,392	94,005	5	4	2,696	77	48,045
1920–21	1,421	57,398	16,170	58,923	5	10	4,808	90	59,693
1921–22	619	17,251	13,632	65,225	5	3	893	62	62,388
1922–23[2]	429	19,945	25,006	75,783	8	6	1,295	85	35,339

Year ending June 30.	Manila.	Molasses.	Olive oil, for table use.	Opium, crude.	Potatoes.	Rice and rice flour, rice meal, and broken rice.	Sisal grass.	Sugar, raw and refined.	Tea.
Average:	*1,000 long tons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 pounds.*	*1,000 pounds.*
1852–1856	12	28,489	----------	110	407	----------	----------	479,374	24,960
1857–1861	----------	30,191	----------	114	----------	----------	----------	691,324	28,150
1862–1866	16	34,263	178	129	252	70,893	1	672,637	30,869
1867–1871	----------	53,322	153	209	216	52,954	----------	1,138,465	44,053
1872–1876	----------	44,815	175	365	255	72,536	----------	1,614,055	62,436
1877–1881	----------	32,639	219	408	1,850	62,615	----------	1,760,508	67,583
1882–1886	----------	35,020	----------	392	2,635	99,871	----------	2,458,490	74,781
1887–1891	----------	30,543	758	475	3,879	156,859	40	3,003,284	84,275
1892–1896	47	15,475	774	529	1,805	160,808	50	3,827,799	92,782
1897–1901	47	6,321	909	568	495	165,232	70	3,916,434	86,809
1902–1906	61	17,192	1,783	538	2,662	150,914	97	3,721,782	98,678
1907–1911	67	24,147	3,897	490	1,907	215,892	102	3,997,156	96,725
1912–1916	64	54,144	6,042	399	3,638	250,775	180	4,993,125	98,841
1900–1	44	11,453	983	583	372	117,200	70	3,975,006	89,806
1901–2	56	14,391	1,339	534	7,656	157,659	90	3,031,916	75,579
1902–3	62	17,240	1,494	517	359	169,656	87	4,216,108	108,575
1903–4	66	18,829	1,714	573	3,167	154,222	109	3,700,624	112,906
1904–5	62	19,478	1,923	585	181	106,484	100	3,680,933	102,707

[1] Less than 500 barrels.

[2] Preliminary.

TABLE 656.—*Imports of selected agricultural products, 1859–1923*—Continued.

Year ending June 30.	Manila.	Molasses.	Olive oil, for table use.	Opium, crude.	Potatoes.	Rice and riceflour, ricemeal, and broken rice.	Sisal grass.	Sugar, raw and refined.	Tea.
	1,000 long tons.	*1,000 gallons.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 pounds.*	*1,000 pounds.*
1905–6	59	16,021	2,447	469	1,948	166,548	98	3,979,331	98,622
1906–7	55	24,631	3,450	565	177	209,603	99	4,391,540	86,368
1907–8	52	18,263	3,799	286	404	212,783	104	3,371,997	94,150
1908–9	62	22,093	4,139	517	8,284	222,900	91	4,189,421	114,917
1909–10	93	31,292	3,702	449	353	295,401	100	4,094,546	85,626
1910–11	74	28,338	4,406	680	219	208,775	118	3,937,978	102,564
1911–12	69	25,328	4,837	400	13,735	190,063	114	4,104,618	101,407
1912–13	74	33,927	5,221	508	327	222,104	154	4,740,041	94,813
1913–14	50	51,410	6,218	455	3,646	200,195	216	5,066,822	91,131
1914–15	51	70,340	6,711	484	271	277,191	186	5,420,982	96,988
1915–16	79	85,717	7,224	147	210	264,324	229	5,633,162	109,866
1916–17	77	110,298	7,533	87	3,079	216,049	143	5,332,746	103,364
1917–18	86	130,731	2,538	156	1,180	456,059	150	4,903,327	151,315
1918–19	68	130,075	4,283	346	3,534	363,726	153	5,536,048	108,172
1919–20	77	154,670	6,813	629	6,941	179,980	176	7,596,032	97,826
1920–21	52	113,414	4,443	77	3,423	96,805	159	7,012,670	72,196
1921–22	44	87,908	7,941	144	2,110	73,620	72	8,464,329	86,142
1922–23[1]	97	161,881	9,950	15	572	69,536	98	8,422,483	96,969

Year ending June 30.	Beeswax.	Onions.	Plums and prunes.	Raisins.	Currants.	Dates.	Figs.
	1,000 pounds.	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:							
1887–1891	129	----------	60,238	28,546	----------	----------	9,784
1892–1896	280	----------	12,406	17,746	e. 24 398	14,914	10,117
1897–1901	265	628	561	7,670	'20	15,654	8,920
1902–1906	457	924	564	7,845	37	25,649	14,335
1907–1911	846	1,103	----------	5,283	35,259	25,879	19,848
1912–1916	1,406	997	----------	2,845	30,350	29,922	16,564
1909–1	214	774	746	3,861	16,049	20,014	9,934
1901–2	409	796	522	6,684	36,239	21,681	11,087
1902–3	489	926	634	6,716	33,878	42,815	16,462
1903–4	425	1,171	494	6,868	36,348	21,058	12,178
1904–5	374	856	672	4,042	31,743	19,257	13,364
1905–6	588	873	497	12,415	37,078	22,436	17,562
1906–7	917	1,126	333	3,967	33,393	31,271	24,346
1907–8	672	1,275	335	9,132	33,653	24,058	13,537
1908–9	765	575	296	5,794	32,482	21,869	15,236
1909–10	972	1,024	----------	5,043	33,326	22,694	17,362
1910–11	903	1,515	----------	2,479	33,440	29,505	23,460
1911–12	1,077	1,436	----------	3,356	33,151	25,208	18,765
1912–13	829	789	----------	2,580	30,844	34,305	16,338
1913–14	1,412	1,115	----------	4,555	32,033	34,074	19,285
1914–15	1,565	829	----------	2,809	30,351	24,949	20,790
1915–16	2,146	816	----------	1,024	25,373	31,075	7,153
1916–17	2,686	1,758	----------	1,880	10,477	25,485	16,480
1917–18	1,527	1,313	----------	844	5,168	5,578	10,473
1918–19	2,127	152	----------	120	842	20,192	9,239
1919–20	3,924	1,334	----------	13,807	38,225	36,893	26,552
1920–21	2,215	689	----------	43,269	50,178	35,267	25,424
1921–22	3,101	2,488	----------	18,368	49,467	46,742	43,139
1922–23[1]	4,095	1,781	----------	12,335	18,924	52,087	36,585

[1] Preliminary

TABLE 656.—*Imports of selected agricultural products, 1853–1923*—Continued.

Year ending June 30.	Hides and skins, other than furs.			Macaroni, vermicelli, and all similar preparations.	Lemons.	Oranges.	Walnuts.
	Cattle.	Goat.	Other than cattle and goat.				
Average:	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1897–1901		68,053	91,173				
1902–1906	126,995	93,675	115,952		153,161	41,105	
1907–1911	178,682	94,330	143,251	99,724	153,343	12,090	30,981
1912–1916	313,508	88,711	188,388	83,838	[1] 148,528	[1] 9,941	34,275
1900–1	129,175	73,746	77,990		148,515	50,333	
1901–2	148,628	88,039	89,458		164,075	52,742	
1902–3	131,644	85,114	102,340	28,788	152,004	56,872	12,363
1903–4	85,370	86,339	103,025	40,224	171,923	35,893	23,671
1904–5	113,177	97,804	126,894	53,441	139,084	28,881	21,684
1905–6	156,155	111,097	158,045	77,926	138,717	31,134	24,917
1906–7	134,671	101,202	135,111	87,721	157,860	21,267	32,596
1907–8	98,353	63,641	120,771	97,234	178,490	18,397	28,887
1908–9	192,252	104,043	142,254	85,114	135,184	8,436	26,158
1909–10	318,004	115,845	174,771	113,773	160,215	4,676	33,641
1910–11	150,128	86,914	137,850	114,779	134,969	7,672	33,619
1911–12	251,013	95,341	191,415	106,231	145,639	7,629	37,214
1912–13	268,042	96,250	207,904	106,501	151,416	12,253	26,662
1913–14	279,963	84,759	196,348	126,129			37,196
1914–15	344,341	66,547	137,439	56,542			33,446
1915–16	434,178	100,657	208,835	21,790			36,859
1916–17	396,600	105,640	207,967	3,473			38,725
1917–18	267,500	66,933	96,084	670			23,289
1918–19	253,877	89,005	105,260	592	[2]	[2]	10,937
1919–20	439,461	126,996	232,113	800	[2]	[2]	44,782
1920–21	198,573	41,728	111,891	1,297	[2]	[2]	23,166
1921–22	204,936	83,535	104,433	1,992	101,592	[2]	60,283
1922–23[3]	405,383	89,370	163,425	3,254	122,821	[2]	37,520

Division of Statistical and Historical Research.

Compiled from Foreign Commerce and Navigation of the United States, 1853–1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922, and 1923, Bureau of Foreign and Domestic Commerce.

Where figures are lacking, either there were no imports or they were not separately classified for publication. "Silk" includes, prior to 1881, only "Silk, raw or as reeled from the cocoon"; in 1881 and 1882 are included this item and "Silk waste"; after 1882, both these items and "Silk cocoons." From "Cocoa and chocolate" are omitted in 1860, 1861, and 1872 to 1881, small quantities of chocolate, the official returns for which were given only in value. "Jute and jute butts" includes in 1858 and 1859 an unknown quantity of "Sisal grass, coir, etc.," and in 1865–1868 an unknown quantity of "Hemp." Cattle hides are included in "Hides and skins other than cattle and goats" in 1895–1897. Olive oil for table use includes in 1862–1864 and 1885–1905 all olive oil. Sisal grass includes in 1894–1899 "Other vegetable substances." Hemp includes in 1865–1868 all substitutes for hemp.

[1] Two years, 1912–13. [2] Value only given. [3] Preliminary.

TABLE 657.—*Exports and imports of selected forest products, 1852–1923.*

Year ending June 30.	Domestic exports.					Imports.					
	Lumber.		Rosin.	Spirits of turpentine.	Timber, hewn and sawed.	Camphor, crude.	Rubber gums, total.	Lumber.		Shellac.	Wood pulp.
	Boards, deals, and planks.[1]	Staves.						Boards, deals, planks, and other sawed.	Shingles.		
Average:	*1,000 M feet.*	*Thousands.*	*1,000 barrels.*	*1,000 gallons.*	*1,000 M feet.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 M feet.*	*1,000 M.*	*1,000 pounds.*	*1,000 long tons.*
1852–1856	129	.....	552	1,369	.....	214	.....	.....	.....	.....	.....
1857–1861	205	.....	664	2,735	.....	361	.....	.....	.....	.....	.....
1862–1866	138	.....	69	102	.....	387	.....	.....	.....	634	.....
1867–1871	139	.....	492	2,693	.....	.....	[2] 7,390	.....	.....	.....	.....
1872–1876	222	.....	846	.....	210	.....	12,631	565	88	.....	.....
1877–1881	303	.....	.....	7,139	220	1,516	15,611	418	55	.....	.....
1882–1886	434	.....	1,290	9,302	164	1,959	24,481	578	88	.....	.....
1887–1891	532	.....	1,534	10,794	296	2,274	33,227	647	184	5,086	37
1892–1896	616	.....	2,006	14,259	336	1,492	39,672	661	.....	5,848	43
1897–1901	957	.....	2,478	18,349	491	1,856	52,975	566	.....	8,839	47
1902–1906	1,213	51,234	2,453	16,927	556	2,139	75,909	727	772	11,614	131
1907–1911	1,649	56,182	2,356	16,659	521	2,939	121,504	900	867	19,046	319
1912–1916	1,914	65,431	2,128	15,674	353	3,529	201,759	1,016	1,045	21,470	517
1900–1	1,102	47,363	2,821	20,241	560	2,176	64,927	491	556	9,609	47
1901–2	943	46,999	2,536	19,178	477	1,831	67,790	666	708	9,065	67
1902–3	1,066	55,879	2,396	16,379	570	2,472	69,312	721	724	11,591	117
1903–4	1,427	47,420	2,585	17,208	604	2,820	74,328	589	770	10,933	145
1904–5	1,283	48,286	2,310	15,895	533	1,904	87,004	711	759	16,701	168
1905–6	1,344	57,586	2,439	15,961	595	1,669	81,109	950	901	15,780	157
1906–7	1,624	51,120	2,561	15,855	640	3,138	106,748	934	881	17,786	213
1907–8	1,548	61,697	2,713	19,533	522	2,814	85,810	791	988	13,362	238
1908–9	1,358	52,583	2,170	17,502	419	1,990	114,599	846	1,058	19,185	274
1909–10	1,684	49,784	2,144	15,588	491	3,007	154,621	1,054	763	29,402	378
1910–11	2,032	65,726	2,190	14,818	532	3,726	145,744	872	643	15,495	492
1911–12	2,307	64,163	2,474	19,599	438	2,155	175,966	905	515	18,746	478
1912–13	2,550	89,006	2,806	21,094	512	3,709	170,747	1,091	560	21,912	508
1913–14	2,405	77,151	2,418	18,901	441	3,477	161,777	929	895	16,720	508
1914–15	1,129	39,297	1,372	9,464	174	3,729	196,122	939	1,487	24,153	588
1915–16	1,177	57,538	1,571	9,310	201	4,574	304,183	1,218	1,769	25,818	507
1916–17	1,042	61,469	1,639	8,842	184	6,885	364,914	1,175	1,924	32,540	699
1917–18	1,068	63,207	1,071	5,095	106	3,638	414,984	1,283	1,878	22,913	504
1918–19	1,073	62,753	882	8,065	92	2,623	422,215	977	1,757	14,269	475
1919–20	1,518	80,791	1,322	7,461	234	4,026	660,610	1,492	2,152	34,151	727
1920–21	1,269	65,710	877	9,742	123	2,093	371,300	920	1,831	23,872	624
1921–22	1,543	35,162	786	10,786	268	1,592	578,512	1,124	2,190	30,768	902
1922–23 [3]	1,554	57,475	1,040	9,012	383	3,498	810,028	1,958	2,695	32,806	1,294

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[1] Including "Joists and scantling" prior to 1884.
[2] Includes "Gutta-percha" only for 1867.
[3] Preliminary.

TABLE 658.—*Trade of the continental United States with Hawaii and Porto Rico in selected domestic farm products, years ending June 30, 1921–1923.*

SHIPMENTS FROM THE UNITED STATES.

Article.	Hawaii.			Porto Rico.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
Coffee.....lbs..	73,628	62,508	92,047	.....	.....	10,490
Molasses and sirups...galls..	40,280	37,789	42,551	.....	.....	15,638
Oranges.....boxes..	66,331	51,865	68,818	.....	.....	.....
Sugar.....lbs..	5,571,567	10,109,508	10,543,961	6,281,322	7,385,819	6,947,804
Tobacco, unmanufactured .....lbs..	.....	.....	[2] 2,763	5,234,968	708,759	3,054,499

[1] Preliminary. [2] January 1–June 30.

TABLE 658.—*Trade of the continental United States with Hawaii and Porto Rico in selected domestic farm products, years ending June 30, 1921–1923*—Con.

SHIPMENTS TO THE UNITED STATES.

Article.	Hawaii.			Porto Rico.		
	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
Coffee.....lbs..	3,181,831	3,713,321	2,281,499	211,966	65,622	70,915
Grapefruit.....boxes..				667,637	360,530	460,951
Molasses and sirups..galls..	10,963,327	3,686,131	5,861,878	23,499,459	11,363,143	13,208,555
Oranges.....boxes..				162,395	388,182	732,972
Pineapples.....do..	(2)	(2)	8,770	(2)	(2)	(2)
Pineapples, canned...lbs..	(2)	(2)	257,864,572	(2)	(2)	(2)
Sugar, raw .....do..	977,738,902	1,191,624,620	1,195,078,906	818,043,880	939,013,990	710,381,157
Tobacco, unmanufactured .....lbs..	2,672	3,719	27,930	14,564,394	22,369,984	19,573,535

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

[1] Preliminary. [2] Given in value only.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923.*

Article and country to which consigned.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS.						
Cattle:	*Number.*	*Number.*	*Number.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	5,685	4,930	1,443	3.9	3.2	2.3
Canada	7,749	3,831	1,601	5.3	2.5	2.6
Cuba	20,658	5,799	2,529	14.2	3.7	4.1
Germany	1,485			1.0		
Mexico	83,524	106,131	49,223	57.3	68.3	80.1
United Kingdom	24,935	34,158	6,417	17.1	22.0	10.4
Other countries	1,642	432	273	1.2	.3	.5
Total	145,673	155,281	61,486	100.0	100.0	100.0
Horses:						
Belgium	67	107	4	0.5	0.6	0.1
Canada	4,223	2,915	2,496	33.4	16.4	28.9
Cuba	1,512	782	491	12.0	4.4	5.7
Germany	547	221	10	4.3	1.2	.1
Mexico	5,073	11,747	3,802	40.1	65.9	44.0
Spain		1,206	1,214		6.8	14.0
United Kingdom	216	320	158	1.7	1.8	1.8
Other countries	1,000	529	466	8.0	2.9	5.4
Total	12,638	17,827	8,641	100.0	100.0	100.0
Butter:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	1,992,126	874,712	76,314	25.4	11.6	0.8
Cuba	738,522	780,011	767,108	9.4	10.4	8.2
Haiti	408,133	456,037	615,399	5.2	6.1	6.5
Mexico	1,107,362	866,259	904,158	14.1	11.5	9.6
Other South America	468,282	429,292	359,809	5.9	5.7	3.8
Other West Indies	1,343,738	1,637,662	1,433,345	17.2	21.8	15.2
Panama	591,286	698,162	657,793	7.6	9.3	7.0
Peru	280,925	266,233	234,975	3.6	3.5	2.5
Philippine Islands	216,686	276,549	354,889	2.8	3.7	3.8
United Kingdom	63,943	572,227	3,408,128	.8	7.6	36.2
Other countries	628,252	654,853	597,919	8.0	8.8	6.4
Total	7,829,255	7,511,997	9,409,837	100.0	100.0	100.0
Beef, canned:						
Canada	331,355	173,600	93,900	3.1	4.6	4.1
Cuba	276,745	28,882	89,206	2.6	.8	3.9
Dutch East Indies	295,262	51,185	116,252	2.7	1.4	5.1
French Guiana	37,578	6,249	10,944	.3	.2	.5
Japan	14,891	102,059	58,885	.1	2.7	2.6
Mexico	335,967	84,065	81,189	3.1	2.2	3.5
Newfoundland and Labrador	18,248	46,975	64,663	.2	1.3	2.8
Philippine Islands	112,747	94,610	298,116	1.0	2.5	13.0
Poland and Danzig	5,249,862			48.8		
United Kingdom	1,996,391	2,468,365	727,841	18.5	65.7	31.6
Other countries	2,093,920	697,476	760,443	19.6	18.6	32.9
Total	10,762,986	3,748,486	2,301,499	100.0	100.0	100.0

[1] Preliminary.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
ANIMALS AND ANIMAL PRODUCTS—CON.						
Beef, pickled and other cured:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	702, 370	693, 384	363, 751	3.0	2.6	1.5
Canada	1, 731, 856	1, 079, 967	1, 460, 891	7.4	4.0	6.0
Denmark	105, 540	308, 725	196, 700	.5	1.2	.8
Dutch Guiana	1, 143, 080	1, 390, 643	1, 137, 500	4.9	5.2	4.7
Germany	1, 165, 517	954, 126	462, 936	5.0	3.6	1.9
Jamaica	502, 253	786, 574	974, 320	2.2	2.9	4.0
Netherlands	1, 024, 116	178, 266	190, 989	4.4	.7	.8
Newfoundland and Labrador	5, 515, 689	6, 942, 314	6, 627, 439	23.7	25.9	27.4
Norway	1, 244, 532	3, 481, 835	1, 785, 320	5.3	13.0	7.4
Panama	178, 117	272, 320	259, 924	.8	1.0	1.1
Trinidad and Tobago	1, 588, 872	1, 397, 875	1, 166, 670	6.8	5.2	4.8
United Kingdom	4, 114, 802	3, 513, 473	3, 084, 799	17.7	13.1	12.8
West Indies	4, 173, 809	4, 936, 414	5, 454, 592	17.9	18.4	22.6
Other countries	122, 308	838, 188	1, 019, 432	.4	3.2	4.2
Total	23, 312, 856	26, 774, 124	24, 185, 263	100.0	100.0	100.0
Oleo oil:						
Belgium	1, 369, 502	1, 472, 357	1, 665, 677	1.3	1.3	1.6
Denmark	2, 900, 462	2, 493, 656	2, 581, 795	2.7	2.1	2.5
France	1, 898, 154	3, 892, 117	245, 712	1.9	3.3	.2
Germany	15, 983, 006	14, 878, 393	13, 987, 054	15.0	12.7	13.3
Greece	2, 601, 039	1, 877, 494	1, 190, 630	2.4	1.6	1.1
Netherlands	36, 106, 662	46, 629, 929	47, 052, 838	33.9	39.8	44.8
Newfoundland and Labrador	1, 662, 215	1, 168, 096	1, 522, 240	1.6	1.0	1.5
Norway	13, 868, 406	15, 956, 477	12, 133, 362	13.0	13.6	11.6
Sweden	3, 945, 113	2, 676, 865	2, 383, 367	3.7	2.3	2.3
Turkey in Europe	7, 640, 323	11, 148, 201	4, 123, 958	7.2	9.5	3.9
United Kingdom	14, 273, 236	11, 081, 989	14, 967, 025	13.4	9.5	14.3
Other countries	4, 166, 682	3, 898, 686	3, 102, 720	3.9	3.3	2.9
Total	106, 414, 800	117, 174, 260	104, 956, 378	100.0	100.0	100.0
Lard compounds, containing animal fats:						
Cuba	7, 040, 959	3, 965, 013	1, 413, 857	16.7	13.1	12.7
Canada	1, 138, 542	416, 069	64, 281	2.7	1.4	.6
Dutch West Indies	216, 971	253, 407	271, 488	.5	.8	2.4
Germany	4, 064, 951	3, 046, 988	3, 473	9.6	10.0	-------
Haiti	2, 173, 463	1, 883, 097	1, 444, 849	5.2	6.2	13.0
Jamaica	187, 815	232, 990	155, 905	.4	.8	1.4
Mexico	8, 617, 672	7, 277, 069	2, 692, 365	20.4	24.0	24.2
Norway	1, 944, 955	1, 397, 358	735, 077	4.6	4.6	6.6
Panama	568, 896	582, 151	357, 509	1.3	1.9	3.2
Trinidad and Tobago	2, 552, 258	1, 571, 869	400, 339	6.1	5.2	3.6
United Kingdom	6, 427, 413	4, 029, 819	1, 555, 543	15.3	13.3	14.0
Other countries	7, 212, 076	5, 672, 846	2, 045, 044	17.2	18.7	18.3
Total	42, 155, 971	30, 328, 176	11, 139, 730	100.0	100.0	100.0
Bacon:						
Belgium	20, 448, 217	16, 743, 147	23, 215, 436	6.0	4.8	5.7
Canada	12, 718, 278	11, 021, 627	9, 925, 008	2.6	3.1	2.4
Cuba	25, 302, 394	23, 461, 552	24, 829, 609	5.2	6.7	6.1
Denmark	4, 901, 247	3, 623, 419	2, 456, 058	1.0	1.0	.6
France	5, 369, 021	9, 363, 454	7, 758, 436	1.1	2.7	1.9
Germany	81, 304, 491	53, 252, 825	74, 380, 003	16.6	15.2	18.2
Italy	14, 991, 337	2, 481, 361	9, 259, 356	3.1	.7	2.3
Mexico	501, 994	416, 135	395, 045	.1	.1	.1
Netherlands	43, 420, 507	20, 847, 482	30, 971, 830	8.9	5.9	7.6
Norway	6, 681, 106	9, 146, 692	12, 268, 761	1.4	2.6	3.0
Sweden	7, 026, 778	6, 749, 329	9, 765, 261	1.4	1.9	2.4
United Kingdom	244, 716, 102	184, 703, 155	188, 274, 240	50.0	52.7	46.1
Other countries	12, 836, 665	8, 738, 774	14, 771, 022	2.6	2.6	3.6
Total	489, 298, 109	350, 548, 952	406, 282, 065	100.0	100.0	100.0
Hams and shoulders, cured:						
Belgium	6, 891, 317	9, 690, 036	13, 978, 797	4.0	3.6	4.4
Canada	8, 440, 332	10, 663, 674	19, 535, 776	4.9	3.9	6.1
Cuba	12, 468, 850	9, 070, 883	12, 784, 118	7.3	3.3	4.0
Dominican Republic	414, 948	321, 305	325, 640	.2	.1	.1
France	1, 472, 925	894, 348	2, 142, 135	.9	.3	.7
Mexico	1, 054, 760	889, 958	1, 027, 949	.6	.3	.3
Newfoundland and Labrador	651, 647	482, 578	645, 577	.4	.2	.2
Panama	494, 240	472, 999	630, 999	.3	.2	.2
United Kingdom	134, 088, 489	233, 566, 413	259, 430, 417	77.9	86.0	81.7
Other countries	6, 123, 968	5, 590, 502	8, 682, 282	3.5	2.1	2.3
Total	172, 011, 676	271, 641, 786	319, 186, 689	100.0	100.0	100.0

[1] Preliminary.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS—con.						
Lard:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	57, 962, 854	43, 501, 420	50, 472, 076	7.8	5.4	5.3
Canada	12, 225, 546	8, 852, 480	14, 218, 375	1.6	1.0	1.5
Cuba	59, 938, 840	73, 926, 475	87, 897, 540	8.0	9.0	9.2
Denmark	9, 527, 408	6, 922, 941	5, 699, 646	1.3	.9	.6
Dominican Republic	2, 682, 955	3, 050, 146	4, 200, 001	.4	.4	.4
Ecuador	3, 127, 715	3, 501, 343	4, 515, 308	.4	.4	.5
France	16, 467, 713	37, 069, 312	37, 801, 672	2.2	4.6	4.0
Germany	231, 527, 922	260, 716, 401	328, 111, 752	31.0	32.1	34.4
Haiti	1, 473, 590	1, 431, 574	1, 763, 529	.1	.2	.2
Italy	14, 171, 983	9, 051, 392	29, 570, 322	1.9	1.1	3.1
Mexico	27, 303, 989	44, 435, 678	44, 951, 072	3.7	5.5	4.7
Netherlands	113, 867, 554	42, 830, 544	47, 802, 425	15.3	5.3	5.0
Peru	1, 912, 499	5, 118, 918	7, 799, 400	.3	.6	.8
Poland and Danzig	6, 025, 749	2, 716, 022	6, 708, 091	.8	.3	.7
Sweden	4, 309, 678	5, 389, 566	5, 941, 585	.6	.7	.6
Switzerland	3, 608, 960	3, 830, 264	2, 789, 067	.5	.5	.3
United Kingdom	169, 463, 848	244, 465, 234	241, 144, 099	22.7	30.1	25.3
Venezuela	1, 565, 053	659, 156	2, 192, 440	.2	.1	.2
Other countries	8, 998, 390	14, 820, 530	29, 062, 805	1.2	1.8	3.2
Total	746, 157, 246	812, 379, 396	952, 641, 705	100.0	100.0	100.0
Lard, neutral:						
Belgium	359, 361	641, 869	971, 168	1.6	3.3	3.7
Denmark	854, 640	1, 238, 503	1, 212, 976	3.8	6.3	4.6
Germany	1, 152, 972	2, 618, 949	2, 059, 871	5.1	13.4	7.8
Netherlands	6, 730, 821	5, 910, 743	8, 778, 345	29.9	30.2	33.1
Newfoundland and Labrador	466, 021	664, 227	784, 755	2.1	3.4	3.0
Norway	2, 522, 315	4, 444, 394	4, 314, 719	11.2	22.7	16.3
Sweden	837, 549	1, 219, 533	1, 439, 750	3.7	6.2	5.4
United Kingdom	8, 639, 136	2, 019, 660	5, 476, 907	38.3	10.3	20.7
Other countries	981, 488	815, 032	1, 455, 788	4.3	4.2	5.4
Total	22, 544, 303	19, 572, 940	26, 494, 079	100.0	100.0	100.0
Pork, pickled:						
Belgium	697, 720	628, 129	328, 441	2.1	1.9	0.8
British Guiana	748, 625	696, 250	972, 334	2.2	2.1	2.4
British West Indies	2, 142, 641	2, 711, 473	3, 377, 783	6.4	8.1	8.3
Canada	13, 643, 887	10, 856, 771	13, 348, 745	41.0	32.4	32.6
Cuba	2, 488, 216	1, 319, 231	1, 379, 111	7.4	3.9	3.4
Germany	888, 988	1, 746, 028	3, 523, 905	2.7	5.2	8.6
Haiti	928, 952	1, 222, 747	1, 269, 842	2.8	3.6	3.1
Newfoundland and Labrador	4, 147, 071	4, 756, 208	5, 265, 840	12.5	14.2	12.9
Norway	335, 540	1, 257, 909	1, 567, 944	1.0	3.8	3.8
United Kingdom	2, 907, 794	4, 913, 655	5, 852, 630	8.7	14.7	14.3
Other countries	4, 396, 628	3, 401, 655	4, 047, 281	13.2	10.1	9.8
Total	33, 286, 062	33, 510, 146	40, 933, 756	100.0	100.0	100.0
VEGETABLE PRODUCTS.						
Cotton:						
Austria	2, 930, 913	2, 008, 919	1, 478, 876	0.1	0.1	0.1
Belgium	83, 008, 919	93, 136, 041	92, 884, 508	3.0	2.8	3.5
Canada	84, 583, 073	100, 583, 080	108, 525, 863	3.0	3.0	4.1
China	23, 606, 195	67, 196, 247	11, 556, 176	.8	2.0	.4
Czechoslovakia	486, 404	397, 059	495, 567			
France	295, 314, 944	410, 024, 663	352, 099, 567	10.5	12.2	13.4
Germany	576, 212, 124	808, 336, 788	472, 823, 551	20.5	24.1	18.0
Italy	279, 007, 543	234, 295, 065	286, 084, 186	9.9	7.0	10.9
Japan	277, 445, 883	447, 683, 525	339, 579, 297	9.9	13.3	12.9
Mexico	35, 301, 222	3, 097, 263	7, 745, 906	1.3	.1	.3
Netherlands	49, 377, 121	42, 101, 703	37, 809, 219	1.8	1.4	1.4
Norway	2, 339, 944	3, 261, 395	2, 099, 248	.1	.1	.1
Poland and Danzig	7, 383, 142	9, 081, 134	11, 111, 022	.3	.3	.4
Portugal	9, 632, 512	10, 277, 523	14, 106, 863	.3	.3	.5
Spain	130, 494, 795	170, 775, 695	125, 121, 820	4.6	5.1	4.8
Sweden	28, 072, 334	26, 827, 106	30, 295, 627	1.0	.8	1.2
Switzerland	18, 562, 009	2, 476, 800	1, 569, 927	.7	.1	.1
United Kingdom	891, 492, 053	903, 371, 622	701, 508, 949	31.7	26.9	26.7
Other countries	16, 187, 575	17, 952, 170	29, 890, 975	.5	.4	1.2
Total	2, 811, 388, 710	3, 358, 878, 748	2, 626, 732, 147	100.0	100.0	100.0

[1] Preliminary.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Fruits:						
Apples, fresh—	*Boxes.* [2]	*Boxes.*	*Boxes.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	.....	4,200	60,777	.....	0.8	1.7
Canada	.....	59,543	347,919	.....	4.8	10.0
Cuba	.....	10,365	49,973	.....	.7	1.4
Mexico	.....	26,011	103,824	.....	1.9	3.0
Norway	.....	57,534	128,537	.....	4.1	3.4
Philippine Islands	.....	5,987	91,553	.....	.4	2.6
United Kingdom	.....	939,675	2,503,633	.....	67.4	71.7
Other countries	.....	291,619	205,028	.....	20.9	6.2
Total	.....	1,394,934	3,491,244	.....	100.0	100.0
	Barrels.	*Barrels.*	*Barrels.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	14,907	7,857	13,083	0.6	1.2	2.2
Canada	327,561	44,824	47,005	12.3	7.1	7.9
Cuba	40,233	20,523	20,156	1.5	3.3	3.4
Mexico	46,500	20,983	4,414	1.7	3.3	.7
Norway	74,960	27,839	13,261	2.8	4.4	2.2
Philippine Islands	11,005	8,334	8	.4	1.3	.....
United Kingdom	2,061,622	458,227	490,437	77.4	72.8	81.1
Other countries	88,313	40,594	14,217	3.3	6.6	2.5
Total	2,665,101	629,181	592,581	100.0	100.0	100.0
Apricots, dried—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	369,757	718,651	394,945	4.4	4.3	3.5
Canada	792,306	659,949	802,276	9.5	3.9	7.2
Denmark	439,563	1,237,817	1,243,494	5.3	7.4	11.1
France	406,984	3,858,817	3,306,111	4.9	23.1	29.5
Germany	1,093,764	2,477,502	323,556	13.1	14.8	2.9
Japan	166,430	220,170	405,846	2.0	1.3	3.6
Netherlands	833,112	1,642,587	897,500	10.0	9.8	8.0
New Zealand	98,390	284,150	226,795	1.2	1.7	2.0
Norway	408,661	808,752	1,085,049	4.9	4.8	9.7
Sweden	493,427	879,145	801,447	5.9	5.3	7.2
United Kingdom	2,877,419	3,585,399	1,246,606	34.5	21.4	11.1
Other countries	352,609	362,670	459,556	4.3	2.2	4.2
Total	8,332,404	16,735,609	11,193,183	100.0	100.0	100.0
Oranges—	*Boxes.*	*Boxes.*	*Boxes.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	1,820,800	1,531,364	1,674,105	91.0	93.4	93.1
United Kingdom	26,594	17,515	27,572	1.3	1.0	1.5
Other countries	153,347	91,959	97,535	7.7	5.6	5.4
Total	2,000,741	1,640,838	1,799,212	100.0	100.0	100.0
Prunes—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	1,602,992	3,945,320	2,515,887	2.8	3.6	3.2
Canada	11,296,548	14,253,357	13,951,017	19.7	13.0	17.6
Denmark	1,455,277	4,133,187	2,003,032	2.5	3.8	2.5
France	1,740,212	25,063,197	26,586,389	3.0	22.9	33.6
Germany	16,734,550	16,669,695	263,056	29.1	15.2	.3
Mexico	914,626	700,885	1,029,352	1.6	.6	1.3
Netherlands	2,489,549	4,441,902	1,771,449	4.3	4.1	2.2
New Zealand	445,700	1,204,320	1,520,060	.8	1.1	1.9
Norway	123,977	563,781	742,431	.2	.5	.9
Sweden	3,022,827	5,489,977	4,864,105	5.3	5.0	6.1
United Kingdom	15,504,011	29,561,264	18,905,239	27.0	27.0	23.9
Other countries	2,127,515	3,371,248	5,076,736	3.7	3.2	6.5
Total	57,460,784	109,398,133	79,228,753	100.0	100.0	100.0
Fruits, canned—	*Dollars.*	*Dollars.*	*Dollars.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	131,517	149,331	162,098	1.0	0.9	0.7
Canada	1,983,524	679,743	1,136,681	15.1	4.1	5.1
Cuba	2,497,175	88,601	477,333	19.0	.2	2.1
Dutch East Indies	256,115	229,578	300,049	2.0	1.4	1.3
France	77,557	435,063	711,183	.6	2.7	3.2
Netherlands	195,893	107,689	220,449	1.5	.7	1.0
Norway	89,206	64,991	114,438	.7	.4	.5
Philippine Islands	223,997	46,471	126,260	1.7	.3	.6
United Kingdom	5,938,918	13,688,171	17,469,329	45.2	83.6	77.7
Other countries	1,734,151	983,061	1,761,467	13.2	5.7	7.8
Total	13,128,053	16,373,219	22,479,307	100.0	100.0	100.0

[1] Preliminary.

[2] Included in apples, fresh in barrels previous to January, 1922.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
VEGETABLE PRODUCTS—continued.						
Glucose:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	2,864,562	3,544,514	4,485,924	2.3	1.4	2.9
Belgium	5,074,544	13,725,027	6,384,683	4.0	5.3	4.1
British South Africa	1,935,631	2,926,270	3,737,884	1.5	1.1	2.4
Canada	3,469,071	4,595,089	2,277,990	2.8	1.8	1.5
Cuba	1,065,412	748,445	2,037,531	.8	.3	1.3
Egypt	265,441	4,578,321	11,091,619	.2	1.8	7.1
France	2,651,160	7,240,544	1,322,484	2.1	2.8	.8
Germany	11,642,850	26,104,465	1,794,295	9.2	10.1	1.1
Greece	3,068,682	4,003,104	3,585,359	2.9	1.8	2.3
Italy	3,198,491	1,277,617	1,202,379	2.5	.5	.8
Netherlands	4,375,458	14,205,088	2,307,945	3.5	5.5	1.5
Norway	1,799,460	2,262,350	2,293,564	1.4	.9	1.5
United Kingdom	69,117,895	147,372,616	93,154,723	54.9	57.0	59.6
Other countries	14,843,729	25,264,443	20,638,659	11.9	9.7	13.1
Total	125,972,386	258,447,893	156,314,639	100.0	100.0	100.0
Grain and grain products:						
Corn—	*Bushels.*	*Bushels.*	*Bushels.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	954,639	4,470,782	1,930,687	1.4	2.5	2.1
Canada	20,297,783	61,643,197	32,153,890	30.3	34.9	34.2
Cuba	2,120,865	2,694,132	2,778,141	3.2	1.5	3.0
Denmark	4,401,431	7,265,933	3,320,120	6.6	4.1	3.5
France	165,356	2,974,911	3,174,168	.2	1.7	3.4
Germany	10,844,405	27,175,436	11,806,514	16.2	15.4	12.6
Italy	27,181	1,427,604	960,110	-------	.8	1.0
Mexico	5,635,328	10,101,521	288,487	8.4	5.7	.3
Netherlands	10,143,683	22,839,667	13,961,586	15.2	12.9	14.8
Norway	17,290	1,066,991	823,113	-------	.6	.9
Russia in Europe	-------	5,872,684	3,392	-------	3.3	-------
Spain	12,000	2,208,652	422,375	-------	1.3	.4
United Kingdom	11,422,506	22,074,350	21,271,080	17.1	12.5	22.6
Other countries	868,626	4,569,754	1,170,390	1.4	2.8	1.2
Total	66,911,093	176,385,614	94,064,053	100.0	100.0	100.0
Wheat—						
Belgium	26,287,508	17,526,947	11,345,230	9.0	8.4	7.3
Canada	10,746,857	29,341,265	31,992,628	3.7	14.1	20.6
China	-------	2,033,553	1,106,580	-------	1.0	.7
France	24,394,485	5,694,338	14,750,870	8.3	2.7	9.5
Germany	25,526,994	21,782,679	8,492,567	8.7	10.5	5.5
Gibraltar	6,606,255	2,079,257	1,096,390	2.3	1.0	.7
Italy	57,123,068	35,656,391	33,771,801	19.5	17.1	21.8
Japan	1,206,791	11,002,363	5,353,422	.4	5.3	3.5
Netherlands	21,379,062	19,257,764	12,246,730	7.3	9.2	7.9
Norway	1,054,288	262,671	1,241,986	.4	.1	.8
Portugal	1,537,565	808,666	-------	.5	.4	-------
Russia in Europe	36,230	775,817	85,274	-------	.4	.1
Spain	9,164,153	2,448,806	23,997	3.1	1.2	-------
United Kingdom	88,784,515	48,806,181	28,237,471	30.3	23.4	18.2
Other countries	19,419,866	10,842,393	5,205,835	6.5	5.2	3.4
Total	293,267,637	208,321,091	154,950,971	100.0	100.0	100.0
Wheat flour—	*Barrels.*	*Barrels.*	*Barrels.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	565,191	123,479	42,072	3.5	0.8	0.3
Brazil	622,066	327,018	477,568	3.8	2.1	3.2
British West Africa	55,600	65,574	108,703	.3	.4	.7
Canada	35,501	68,216	66,936	.2	.4	.4
Central America	426,615	499,827	537,868	2.6	3.2	3.6
China	10,400	228,871	1,475,843	.1	1.4	9.9
Cuba	986,341	1,068,721	1,088,582	6.1	6.8	7.3
Denmark	87,173	359,403	194,899	.5	2.3	1.3
Egypt	492,873	190,224	293,147	3.0	1.2	2.0
Finland	295,202	432,881	299,853	1.8	2.7	2.0
Germany	1,988,070	1,516,353	1,062,684	12.3	9.6	7.1
Greece	419,917	63,810	317,738	2.6	.4	2.1
Haiti	210,762	162,488	281,000	1.3	1.0	1.9
Hongkong	142,495	973,255	825,197	.9	6.2	5.5
Italy	315,277	50,058	54,280	1.9	.3	.4
Japan	18,598	629,012	244,560	.1	4.0	1.6
Kwantung, leased territory	-------	344,567	384,909	-------	2.2	2.6
Mexico	359,893	245,670	365,664	2.2	1.6	2.5
Netherlands	1,263,405	917,560	982,736	7.8	5.8	6.6
Norway	242,134	408,410	216,555	1.5	2.6	1.5
Other West Indies	593,549	508,775	473,121	3.7	3.2	3.2

[1] Preliminary.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Grain and grain products—Continued.						
Wheat flour—Continued.	*Barrels.*	*Barrels.*	*Barrels.*	*P. ct.*	*P. ct.*	*P. ct.*
Panama	116,281	95,120	88,240	0.7	0.6	0.6
Philippine Islands	197,704	333,046	469,838	1.2	2.1	3.2
Poland and Dansig	1,034,632	146,744	158,785	6.4	.9	1.1
Russia in Europe	91,510	154,472	313,800	.6	1.0	2.1
Sweden	223,482	137,734	105,507	1.4	.9	.7
Turkey in Europe	579,761	1,381,963	472,378	3.6	8.7	3.2
United Kingdom	3,090,158	3,190,762	1,913,833	19.1	20.2	12.9
Venezuela	148,855	77,308	83,061	.9	.5	.6
Other countries	1,566,511	1,095,503	1,483,357	9.9	6.9	9.9
Total	16,179,956	15,796,824	14,882,714	100.0	100.0	100.0
Hops:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Australia	982,200	488,666	382,633	4.4	2.5	2.8
Belgium	1,911	1,292,799	6,852,576	-------	6.6	50.8
Canada	2,680,251	2,762,124	3,031,538	12.1	14.1	22.5
United Kingdom	17,465,538	13,845,499	2,351,919	78.7	70.9	17.4
Other countries	1,076,128	1,132,559	878,517	4.8	5.9	6.5
Total	22,206,028	19,521,647	13,497,183	100.0	100.0	100.0
Oil cake and oil-cake meal:						
Cottonseed cake—						
Denmark	274,809,012	264,890,758	195,357,016	76.3	63.8	57.0
Germany	35,805,649	117,369,484	132,347,954	9.9	28.3	38.6
Sweden	28,880,847	20,929,920	4,264,960	8.0	5.0	1.2
United Kingdom	12,695,593	10,955,664	7,775,307	3.5	2.6	2.3
Other countries	7,795,755	1,110,853	2,798,957	2.3	.3	.9
Total	359,986,856	415,256,679	342,544,194	100.0	100.0	100.0
Cottonseed meal—						
Belgium	1,568,000	4,812,760	3,603,903	1.7	4.1	3.2
Canada	12,182,904	4,146,348	2,627,740	12.9	3.5	2.4
Germany	3,894,472	6,953,787	3,566,500	4.1	5.9	3.2
Netherlands	-------	1,927,000	3,284,869	-------	1.6	2.9
Norway	22,942,354	13,710,014	11,201,439	24.2	11.7	10.0
United Kingdom	44,164,851	75,395,136	83,015,447	46.6	64.2	74.2
Other countries	9,961,384	10,518,912	4,505,912	10.5	9.0	4.1
Total	94,713,965	117,463,957	111,805,810	100.0	100.0	100.0
Linseed or flaxseed cake—						
Belgium	43,335,063	152,114,660	91,655,770	11.6	32.4	17.1
Germany	43,346,153	6,435,135	16,215,405	11.6	1.4	3.0
Netherlands	221,094,838	276,287,018	351,445,099	59.3	58.8	65.5
United Kingdom	57,656,302	27,731,137	69,518,709	15.5	5.9	13.0
Other countries	7,596,675	6,879,426	7,720,345	2.0	1.5	1.4
Total	373,079,051	469,397,376	536,555,238	100.0	100.0	100.0
Oils, vegetable:						
Cottonseed—						
Argentina	1,966,787	3,384,751	3,840,798	0.7	3.7	6.0
Canada	36,577,655	38,492,691	26,558,615	13.6	42.0	41.3
Chile	819,798	1,372,553	4,174,868	.3	1.5	6.5
Cuba	4,457,145	2,914,611	3,442,620	1.6	3.2	5.4
Denmark	9,413,933	7,867,674	1,705,794	3.3	8.6	2.7
Dominican Republic	1,111,594	723,408	1,045,782	.4	.8	1.6
Germany	8,562,774	1,099,753	361,201	3.0	1.2	.6
Greece	1,426,227	867,962	302,320	.5	.9	.5
French Guiana	493,990	525,554	493,331	.2	.6	.8
French West Indies	1,684,262	2,623,449	231,380	.6	2.9	.4
Italy	28,179,075	882,514	206,099	9.9	1.0	.3
Mexico	6,678,387	3,298,694	6,711,448	2.4	3.6	10.4
Netherlands	119,737,778	4,265,064	1,312,695	42.3	4.7	2.0
Norway	10,358,888	9,436,943	5,155,490	3.7	10.3	8.0
Panama	1,208,886	831,808	515,414	.4	.9	.8
United Kingdom	24,482,324	2,526,698	342,188	8.6	2.8	.5
Uruguay	1,495,100	2,933,942	1,997,893	.5	3.2	3.1
Other countries	22,618,400	7,567,176	5,903,295	8.0	8.1	9.1
Total	283,268,025	91,614,635	64,301,231	100.0	100.0	100.0

[1] Preliminary

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
VEGETABLE PRODUCTS—continued.						
Tobacco, leaf:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	3,628,318	1,065,975	2,486,390	0.7	0.2	0.6
Australia	24,545,292	15,241,757	18,030,795	4.9	3.4	4.0
Belgium	25,172,310	21,610,307	22,966,563	5.1	4.8	5.2
British West Africa	6,872,086	7,143,013	10,330,701	1.4	1.6	2.3
Canada	16,327,521	13,117,029	14,131,230	3.3	2.9	3.2
China	20,916,701	22,945,067	39,792,536	4.2	5.1	8.9
Denmark	5,388,533	3,829,171	5,037,335	1.1	.8	1.1
France	60,724,974	43,166,050	37,638,320	12.2	9.6	8.5
French Africa	3,314,366	2,853,526	5,292,900	.7	.6	1.2
Germany	18,823,658	29,988,577	30,680,022	3.8	6.6	6.9
Haiti	1,165,710	1,409,940	1,430,497	.2	.3	.3
Hongkong	2,921,921	648,145	1,394,714	.6	.1	.3
Italy	46,858,059	46,971,663	42,400,610	9.4	10.4	9.5
Japan	2,226,923	2,339,513	2,471,857	.4	.5	.6
Mexico	1,771,042	2,542,100	435,837	.4	.6	.1
Netherlands	24,155,164	19,870,686	16,901,535	4.9	4.4	3.8
Norway	3,267,365	3,622,038	3,425,895	.7	.8	.8
Portugal	3,790,615	5,814,821	5,714,648	.8	1.3	1.3
Spain	1,394,709	12,534,194	12,794,761	.3	2.8	2.9
Sweden	6,230,431	4,231,477	5,919,714	1.3	.9	1.3
Switzerland	2,866,975	2,685,712	2,056,692	.6	.6	.5
United Kingdom	204,672,607	178,817,343	152,700,297	41.2	39.6	34.3
Other countries	9,843,550	9,440,332	11,152,623	1.8	2.1	2.4
Total	496,878,830	451,888,436	445,186,472	100.0	100.0	100.0
FOREST PRODUCTS.						
Naval stores:						
Rosin—	*Barrels.*	*Barrels.*	*Barrels.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	114,088	89,643	86,328	13.0	11.4	8.3
Australia	30,631	14,857	10,830	3.5	1.9	1.0
Belgium	27,766	21,969	22,660	3.2	2.8	2.2
Brazil	106,300	88,842	103,318	12.1	11.3	9.9
Canada	79,784	49,802	58,698	9.1	6.3	5.6
Cuba	21,755	13,719	16,022	2.5	1.7	1.5
Dutch East Indies	19,927	31,961	46,215	2.3	4.1	4.4
Germany	70,744	115,247	162,485	8.1	14.7	15.6
Italy	17,156	17,711	34,827	2.0	2.3	3.3
Japan	19,050	44,146	86,739	2.2	5.6	8.3
Netherlands	11,534	12,833	16,917	1.3	1.6	1.6
Sweden	18,772	16,943	27,148	2.1	2.2	2.6
United Kingdom	276,927	205,681	277,269	31.6	26.2	26.7
Uruguay	14,043	9,962	14,765	1.6	1.3	1.4
Other countries	48,632	52,797	75,585	5.4	6.6	7.6
Total	877,109	786,113	1,039,806	100.0	100.0	100.0
Turpentine, spirits of—	*Gallons.*	*Gallons.*	*Gallons.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	500,467	455,009	397,356	5.1	4.2	4.4
Australia	519,437	596,074	481,344	5.3	5.5	5.3
Belgium	505,233	772,324	291,953	5.2	7.2	3.2
Brazil	282,603	217,634	130,229	2.9	2.0	1.4
British South Africa	94,743	71,987	75,452	1.0	.7	.8
Canada	940,531	973,587	884,849	9.6	9.0	9.8
Germany	522,142	835,407	491,331	5.4	7.7	5.5
Netherlands	621,265	899,236	705,906	6.4	8.3	7.8
United Kingdom	5,207,872	5,491,387	5,012,968	53.5	50.9	55.6
Other countries	547,418	473,635	539,916	5.6	4.5	6.2
Total	9,741,711	10,786,280	9,012,304	100.0	100.0	100.0
Lumber:						
Fir—	*M feet.*	*M feet.*	*M feet.*	*P. ct.*	*P. ct.*	*P. ct.*
Australia	49,302	60,905	77,819	13.0	9.0	16.6
British South Africa	4,239	3,796	15,725	1.1	.6	3.4
Canada	10,297	2,564	11,185	2.7	.4	2.4
Chile	13,113	5,477	14,420	3.5	.8	3.1
China	88,706	118,061	68,121	23.4	17.4	14.5
Cuba	4,615	3,443	8,509	1.2	.5	1.8
Japan	68,988	397,484	185,259	18.2	58.6	39.6
Mexico	6,537	8,141	12,494	1.7	1.2	2.7
Peru	57,688	44,094	34,479	15.2	6.5	7.4
United Kingdom	28,856	9,813	15,144	7.6	1.4	3.2
Other countries	46,888	24,683	26,133	12.4	3.6	5.3
Total	379,069	678,393	468,288	100.0	100.0	100.0

[1] Preliminary.

TABLE 659.—*Destination of principal farm products exported from the United States, year ending June 30, 1921–1923*—Continued.

Article and country to which consigned.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
FOREST PRODUCTS—continued.						
Lumber—Continued.						
Oak—	*M feet.*	*M feet.*	*M feet.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	5,347	6,932	9,155	6.9	7.9	6.6
Belgium	3,195	8,174	10,101	4.1	9.3	7.3
British South Africa	832	567	1,309	1.1	.6	.9
Canada	33,600	23,991	37,879	43.2	27.4	27.4
Netherlands	2,327	784	1,393	3.0	.9	1.0
Spain	1,881	553	1,787	2.4	.6	1.3
United Kingdom	25,484	42,184	67,544	32.8	48.2	48.9
Uruguay	721	1,268	2,042	.9	1.4	1.5
Other countries	4,391	3,074	6,908	5.6	3.7	5.1
Total	77,778	87,527	138,118	100.0	100.0	100.0
Pine, yellow, long leaf—						
Argentina	69,857	120,174	178,200	13.6	26.2	30.3
Belgium	14,021	27,405	14,217	2.7	6.0	2.4
Canada	26,885	15,420	32,910	5.6	3.4	5.6
Cuba	158,563	61,001	125,354	30.9	13.3	21.3
Dominican Republic	12,377	5,384	5,519	2.4	1.2	.9
France	1,390	7,003	6,265	.3	1.5	1.1
Italy	1,625	8,400	10,638	.3	1.8	1.8
Mexico	113,757	60,262	54,495	22.2	13.2	9.3
Netherlands	1,186	7,542	5,817	.2	1.6	1.0
Other West Indies	31,264	20,695	37,574	6.1	5.8	6.4
Panama	6,852	4,626	4,202	1.3	1.0	.7
Spain	11,176	20,317	21,846	2.2	4.4	3.7
United Kingdom	35,870	39,527	41,261	7.0	8.7	7.0
Uruguay	9,271	12,206	15,203	1.8	2.7	2.6
Other countries	16,555	41,761	34,021	3.4	9.2	5.9
Total	512,649	458,023	567,522	100.0	100.0	100.0
Railroad ties:	*Number.*	*Number.*	*Number.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	1,519,996	843,770	614,412	30.2	43.8	25.0
China	131,771	6,115	36,016	2.6	.3	1.5
Chosen			23,935			1.0
Cuba	66,193	2,012	39,841	1.3	.1	1.6
Guatemala	78,141	65,325	153,811	1.6	3.4	6.3
Honduras	259,972	218,506	481,947	5.2	11.3	19.6
Japan	165	68,423	233,382		3.5	9.5
Mexico	362,340	397,552	282,933	7.2	20.6	11.5
Palestine and Syria	5,775	12,109	117,963	.1	.6	4.8
Peru	184,408	45,509	103,400	3.7	2.4	4.2
United Kingdom	1,598,114	73,606	33,181	31.7	3.8	1.3
Other countries	832,963	195,599	338,722	16.4	10.2	13.7
Total	5,039,838	1,928,526	2,459,543	100.0	100.0	100.0

Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, and official records of the Bureau of Foreign and Domestic Commerce.

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923.*

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS.						
Cattle:	*Number.*	*Number.*	*Number.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	307,202	128,803	230,227	93.1	85.0	87.2
Mexico	20,184	22,076	20,301	6.1	14.6	7.7
United Kingdom	1,650	246	737	.5	.2	.3
Other countries	938	408	12,622	.3	.2	4.8
Total	329,974	151,533	263,887	100.0	100.0	100.0
Horses:						
Canada	3,633	2,566	2,165	89.8	81.8	76.9
Mexico	98	293	203	2.4	9.3	7.2
United Kingdom	210	188	310	5.2	6.0	11.0
Other countries	103	89	138	2.6	2.9	4.9
Total	4,044	3,136	2,816	100.0	100.0	100.0

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS—con.						
Butter, including substitutes:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	3,420,925	403,538	793,479	10.0	4.2	5.0
Australia	5,605	2,055,537	130,036	-------	21.5	.8
Canada	4,969,770	3,101,084	2,999,355	14.5	32.5	19.0
Denmark	22,822,785	2,888,338	7,371,147	66.5	30.2	46.7
Netherlands	1,451,046	91,117	109,861	4.2	1.0	.7
New Zealand	1,327,239	845,065	3,887,174	3.9	8.8	24.6
United Kingdom	3,441	70,991	369,106	-------	.7	2.3
Other countries	342,842	95,622	112,127	.9	1.1	.9
Total	34,343,653	9,551,202	15,772,285	100.0	100.0	100.0
Cheese, including substitutes:						
Argentina	9,827,075	5,626,213	4,000,545	59.3	16.4	7.3
Canada	311,226	4,823,777	5,858,305	1.9	14.1	10.7
France	2,417,036	2,260,502	4,537,008	14.6	6.6	8.3
Greece	84,716	806,433	922,287	.5	2.4	1.7
Italy	1,185,912	12,085,693	20,571,704	7.2	35.3	37.7
Netherlands	981,074	1,614,852	2,147,774	5.9	4.7	3.9
Norway	89,895	236,290	468,419	.5	.7	.9
Spain	125,366	531,020	12,391	.8	1.5	-------
Switzerland	1,068,100	5,450,139	14,765,121	6.4	15.9	27.1
United Kingdom	37,870	261,051	531,157	.2	.8	1.0
Other countries	456,408	572,034	740,559	2.7	1.6	1.4
Total	16,584,678	34,270,604	54,555,270	100.0	100.0	100.0
Fibers, animal:						
Silk, raw—						
China	6,205,278	7,328,677	10,584,948	21.1	15.2	20.1
France	446,733	259,414	406,684	1.5	.5	.8
Italy	1,772,532	1,613,784	1,818,206	6.0	3.3	3.5
Japan	20,815,912	38,590,110	37,986,046	70.7	80.1	72.1
Other countries	222,290	386,979	1,882,720	.7	.9	3.5
Total	29,462,745	48,178,964	52,683,604	100.0	100.0	100.0
Wool, unmanufactured—						
Carpet, wool—						
Argentina	5,883,343	12,354,133	8,695,254	11.9	8.3	5.1
British India	154,623	3,022,867	3,696,097	.3	2.0	2.2
British South Africa	1,537,866	100,493	220,748	3.1	.1	.1
Chile	384,907	25,275	86,119	.8	-------	-------
China	15,270,730	66,679,144	65,139,698	30.9	44.8	38.2
Denmark	394,625	1,022,300	1,021,014	.8	.7	.6
France	357,009	3,641,970	6,156,173	.7	2.4	3.6
Germany	329,637	2,060,172	4,205,049	.7	1.4	2.5
Greece	22,703	60,501	175,175	-------	-------	.1
Italy	56,170	4,141,621	6,062,134	.1	2.8	3.5
Palestine and Syria	-------	219,789	2,850,141	-------	.1	1.7
Persia	511,350	211,998	996,353	1.0	.1	.6
Spain	311,483	381,049	681,433	.6	.3	.4
Turkey in Asia	364,737	278,960	2,456,828	.7	.2	1.4
United Kingdom	19,179,545	50,241,626	60,859,099	38.8	33.8	35.7
Uruguay	2,536,672	587,337	206,526	5.1	.4	.2
Other countries	2,152,590	3,757,671	6,800,545	4.5	2.6	4.1
Total	49,447,990	148,786,906	170,368,386	100.0	100.0	100.0
Clothing, wool—						
Argentina	92,700,500	6,002,098	9,762,858	36.9	18.3	22.3
Australia	39,032,638	8,610,375	5,195,722	15.5	26.2	11.9
British South Africa	18,187,739	1,842,901	1,225,269	7.2	5.6	2.8
Canada	8,656,806	726,928	3,465,426	3.4	2.2	7.9
Chile	13,727,089	1,116,755	1,036,420	5.5	3.4	2.4
China	8,614,484	73,992	334,253	3.4	.2	.8
New Zealand	6,844,571	2,780,246	665,235	2.7	8.5	1.5
Peru	253,070	31,599	268,938	.1	.1	.6
United Kingdom	28,478,904	2,801,571	15,407,663	11.3	8.5	35.3
Uruguay	31,581,289	8,376,306	4,365,494	12.6	25.5	10.0
Other countries	3,172,183	458,115	1,976,011	1.4	1.5	4.5
Total	251,249,273	32,820,886	43,703,289	100.0	100.0	100.0
Combing wool—						
Argentina	6,146,724	14,023,407	77,256,141	47.3	20.3	25.9
Australia	-------	20,477,363	69,406,989	-------	29.6	23.3
British South Africa	674,477	4,499,919	16,187,811	5.2	6.5	5.4
Canada	313,165	540,807	5,952,834	2.4	.8	2.0
New Zealand	962,268	8,208,468	13,666,196	7.4	11.9	4.6
United Kingdom	3,102,810	4,880,008	58,657,619	24.3	7.0	19.7
Uruguay	630,954	14,596,556	42,040,631	4.9	21.1	14.1
Other countries	1,106,512	2,006,432	15,327,981	8.5	2.8	5.0
Total	12,996,910	69,232,960	298,496,152	100.0	100.0	100.0

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
ANIMALS AND ANIMAL PRODUCTS—con.						
Fibers, animal—Continued.						
Hair of the Angora goat, alpaca, etc.—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
British South Africa	486,601	1,003,713	3,469,041	13.5	23.6	30.4
Chile	40,616	25,743		1.1	.6	
China	131,091	328,724	274,764	3.6	7.7	2.4
Germany	5,379	7,436	12,354	.1	.2	.1
Peru	381,870	389,601	309,003	10.6	9.2	2.7
Turkey in Asia	91,855		28,613	2.5		.3
Turkey in Europe	473,981	530,368	2,601,398	13.1	12.5	22.8
United Kingdom	1,888,597	1,949,548	4,674,695	52.3	45.9	41.0
Other countries	111,595	11,351	24,156	3.2	.3	.3
Total	3,611,585	4,246,484	11,394,024	100.0	100.0	100.0
Hides and skins other than furs:						
Calfskins, dry—						
Argentina	1,165,273	8,768,928	4,474,240	9.9	54.2	29.9
Belgium	233,952	324,786	219,201	2.0	2.0	1.5
British India	1,673,096	136,923	38,365	14.2	.8	.3
Canada	1,259,029	985,266	1,224,488	10.7	6.1	8.2
China	342,707	70,259	158,923	2.9	.4	1.1
Denmark	779,100	186,148	302,684	6.6	1.2	2.0
Dutch East Indies	674,351	200,394	42,888	5.7	1.2	.3
Finland	11,000	229,597	546,288	.1	1.4	3.6
France	1,394,547	654,062	1,519,034	11.8	4.0	10.1
Germany	54,151	94,936	587,669	.5	.6	3.9
Italy	16,524	112,618	90,331	.1	.7	.6
Latvia		166,120	534,818		1.0	3.6
Netherlands	898,165	646,738	1,070,450	7.6	4.0	7.1
Norway	932,308	523,791	797,118	7.9	3.2	5.3
Poland	27,799	256,631	162,886	.2	1.6	1.1
Russia in Europe	33,095		269,914	.7		1.8
Sweden	1,052,894	665,899	961,618	8.9	4.1	6.4
Switzerland	79,169	203,789	87,171	.7	1.3	.6
United Kingdom	742,600	652,285	1,225,966	6.3	4.0	8.2
Uruguay		949,615	106,712		5.9	.7
Other countries	389,798	345,877	566,321	3.2	2.3	3.7
Total	11,809,552	16,174,682	[2] 14,988,085	100.0	100.0	100.0
Calfskins, wet—						
Argentina	190,886	978,216	1,144,697	0.8	3.9	3.7
Australia	202,388	352,817	148,134	.9	1.4	.5
Belgium	625,239	1,094,940	1,084,696	2.6	4.3	3.5
Canada	3,575,472	4,311,897	5,068,156	15.0	17.0	16.5
Denmark	2,743,662	1,545,066	2,103,810	11.5	6.1	6.8
Finland	9,251	269,759	628,330		1.1	2.0
France	8,324,260	7,233,314	8,833,727	35.0	28.5	28.7
Italy		1,185,736	1,243,504		4.7	4.0
Netherlands	2,412,052	1,933,826	1,560,670	10.1	7.6	5.1
New Zealand	619,111	1,212,217	126,460	2.6	4.8	.4
Norway	510,310	343,102	461,508	2.1	1.4	1.5
Poland	227,329	486,273	448,907	1.0	1.9	1.5
Sweden	1,949,134	1,567,035	3,065,676	8.2	6.2	10.0
Switzerland	420,219	1,267,438	1,085,592	1.8	5.0	3.5
United Kingdom	1,618,803	596,897	2,805,954	6.8	2.4	9.1
Uruguay	51,447	90,518	9,308	.2	.4	
Other countries	300,372	914,329	921,469	1.4	3.3	3.2
Total	23,780,065	25,383,380	[2] 30,735,598	100.0	100.0	100.0
Cattle hides, dry—						
Argentina	3,646,902	4,321,139	17,719,184	14.7	23.4	30.1
Australia	331,780	77,156	126,878	1.3	.4	.2
Brazil	1,011,449	94,878	1,709,727	4.1	.5	2.9
British India	1,318,051	182,043	1,221,562	5.3	1.0	2.1
Canada	321,590	1,724,734	4,186,832	1.3	9.4	7.1
China	2,880,150	1,649,188	6,905,068	11.6	8.9	11.7
Colombia	5,475,283	5,283,096	7,865,138	22.1	28.7	13.4
Cuba	47,712	42,700	692,200	.2	.2	1.2
Dutch East Indies	1,024,802	1,644,993	2,582,016	4.1	8.9	4.4
Ecuador	619,306	149,552	349,107	2.5	.8	.6
France	576,172	147,131	2,441,200	2.3	.8	4.2
Guatemala	526,740	51,466	18,962	2.1	.3	
Honduras	161,248	209,593	112,121	.6	1.1	.2
Italy	308,319	10,402	366,540	1.2	.1	.6
Mexico	550,778	389,328	425,507	2.3	2.1	.7

[1] Preliminary.

[2] Includes kip skins until Sept. 21, 1922.

TABLE 960.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
ANIMALS AND ANIMAL PRODUCTS—con.						
Hides and skins other than furs—Con.						
Cattle hides, dry—Continued.	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
New Zealand	342,142	3,133	198,229	1.4	-------	0.3
Nicaragua	556,612	736,175	634,478	2.2	4.0	1.1
Peru	793,742	91,245	442,858	3.2	.5	.8
Switzerland	56,944	-------	151,535	.2	-------	.3
United Kingdom	286,235	660,643	3,279,153	1.2	3.6	5.6
Uruguay	132,706	1,576	1,097,202	.5	-------	1.9
Venezuela	1,697,326	828,105	2,383,540	6.8	4.5	4.1
Other countries	2,141,050	145,141	3,860,936	8.8	.8	6.5
Total	24,814,129	18,438,517	58,770,243	100.0	100.0	100.0
Cattle hides, wet—						
Argentina	79,323,914	86,679,343	186,696,992	45.7	46.5	53.9
Australia	2,751,338	2,415,991	5,082,759	1.6	1.3	1.5
Brazil	20,525,396	15,687,496	24,403,024	11.8	8.4	7.0
Canada	20,106,771	34,190,737	30,499,525	11.6	18.3	8.8
Cuba	6,192,800	15,206,397	12,418,583	3.6	8.2	3.6
France	4,623,854	1,222,972	12,840,361	2.7	.7	3.7
Italy	1,358,034	1,641,136	5,667,392	.8	.9	1.6
Uruguay	27,426,164	17,945,386	34,551,249	15.8	9.6	10.0
Venezuela	186,419	816,269	375,171	.1	.4	.1
Other countries	11,264,519	10,092,188	34,087,902	6.3	5.7	9.8
Total	173,759,209	186,497,917	346,612,958	100.0	100.0	100.0
Goat and kid skins, dry—						
Aden	1,763,535	3,112,822	4,549,505	4.8	4.6	6.4
Algeria, Tunis, etc.	449,600	851,855	1,137,958	1.2	1.2	1.6
Argentina	1,416,807	6,372,141	4,843,644	3.8	9.3	6.8
Brazil	3,606,437	4,684,504	4,569,259	9.8	6.9	6.5
British India	10,411,506	19,904,553	19,799,086	28.3	29.2	28.0
British East Africa	655,430	1,047,094	349,862	1.8	1.5	.5
British South Africa	508,062	933,335	1,359,964	1.4	1.4	1.9
British West Africa	699,732	764,944	1,147,479	1.9	1.1	1.6
China	8,095,152	15,035,533	12,148,704	22.0	22.0	17.2
France	335,969	415,508	1,361,982	.9	.6	1.9
Greece	273,189	477,339	325,808	.7	.7	.5
Java and Madura	-------	405,311	1,077,399	-------	.6	1.5
Mexico	704,509	2,086,054	2,793,963	1.9	3.1	3.9
Morocco	221,799	351,542	401,520	.6	.5	.6
Netherlands	263,769	363,132	593,985	.7	.5	.8
Other Dutch East Indies	709,526	421,396	170,799	1.9	.6	.2
Peru	626,630	979,674	853,525	1.7	1.4	1.2
Spain	1,004,374	2,605,231	3,451,782	2.7	3.8	4.9
United Kingdom	1,237,600	1,396,013	1,926,208	3.4	2.0	2.7
Venezuela	1,349,632	1,772,041	1,801,211	3.7	2.6	2.5
Other countries	2,488,144	4,247,537	6,110,546	6.8	6.4	8.8
Total	36,816,402	68,237,549	70,763,139	100.0	100.0	100.0
Goat skins, wet—						
Argentina	-------	77,377	158,018	-------	0.5	0.8
Brazil	352	-------	9,828	-------	-------	.1
British India	4,684,672	14,692,364	16,824,162	95.4	96.0	90.4
British South Africa	-------	38,677	147,200	-------	.3	.8
China	59,654	-------	15,733	1.2	-------	.1
Spain	-------	-------	97,928	-------	-------	.5
Other countries	167,086	496,674	1,354,177	3.4	3.2	7.3
Total	4,911,764	15,307,092	18,607,046	100.0	100.0	100.0
Sheep and lamb skins, dry and wet—						
Aden	778,371	406,100	1,135,559	1.3	0.8	1.3
Argentina	8,316,958	12,964,089	16,239,412	14.3	26.5	18.8
Australia	3,757,256	712,350	4,838,716	6.4	1.5	5.6
Brazil	1,755,387	1,846,780	1,855,404	3.0	3.8	2.1
British India	1,983,902	1,367,388	187,800	3.4	2.8	.2
British South Africa	3,292,713	1,490,700	2,499,658	5.6	3.1	2.9
Canada	3,525,789	2,189,962	3,660,849	6.0	4.5	4.2
Chile	2,439,595	138,342	1,509,370	4.2	.3	1.7
China	469,577	81,063	693,003	.8	.1	.8
France	720,458	346,885	1,066,581	1.3	.7	1.2
Greece	311,740	120,079	509,652	.5	.2	.6
New Zealand	16,055,011	13,351,877	13,666,790	27.5	27.3	15.8
Spain	951,768	1,507,417	3,978,638	1.6	3.1	4.6
United Kingdom	8,788,816	9,953,330	27,358,807	15.1	20.4	31.7
Uruguay	326,695	712,923	3,321,104	.6	1.5	3.8
Other countries	4,830,990	1,699,176	3,646,793	8.4	3.4	4.7
Total	58,299,376	48,838,392	86,399,136	100.0	100.0	100.0

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS.						
Cocoa or cacao beans:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Brazil	74, 708, 628	18, 975, 068	59, 978, 071	22.8	6.0	15.7
British West Africa	51, 084, 029	97, 125, 629	122, 276, 584	15.6	30.6	32.1
British West Indies	51, 042, 195	36, 052, 288	39, 938, 150	15.6	11.4	10.5
Dominican Republic	41, 757, 753	50, 562, 225	42, 457, 894	12.8	15.9	11.1
Cuba	-------	6, 827, 624	504, 783	-------	2.2	.1
Ecuador	54, 674, 651	37, 438, 630	40, 886, 824	16.7	11.8	10.7
Haiti	1, 104, 499	3, 638, 744	5, 026, 713	.3	1.1	1.3
Portugal	4, 393, 911	4, 392, 107	2, 398, 716	1.3	1.4	.6
United Kingdom	13, 637, 481	21, 177, 841	16, 030, 541	4.2	6.7	4.2
Venezuela	18, 602, 117	20, 002, 934	21, 990, 119	5.7	6.3	5.8
Other countries	16, 168, 066	20, 931, 283	30, 019, 663	5.0	6.6	7.9
Total	327, 123, 350	317, 124, 373	381, 508, 058	100.0	100.0	100.0
Coffee:						
Aden	2, 623, 528	1, 604, 622	2, 436, 100	.2	0.1	0.2
Brazil	857, 454, 209	756, 581, 844	840, 038, 490	63.6	61.1	64.4
Central America	150, 337, 222	99, 134, 597	125, 398, 369	11.1	8.0	9.6
Colombia	212, 391, 512	234, 921, 617	193, 889, 565	15.7	19.0	14.9
Dutch East Indies	18, 507, 273	22, 831, 697	20, 967, 513	1.4	1.8	1.6
Mexico	23, 413, 471	38, 444, 169	39, 490, 998	1.7	3.1	3.0
Venezuela	51, 974, 340	65, 267, 153	58, 509, 417	3.9	5.3	4.5
West Indies	18, 875, 161	6, 626, 607	10, 500, 978	1.4	.5	.8
Other countries	13, 349, 622	12, 599, 772	13, 936, 254	1.0	1.1	1.0
Total	1, 348, 926, 338	1, 238, 012, 078	1, 305, 187, 684	100.0	100.0	100.0
Fibers, vegetable:						
Cotton, raw—						
British India	5, 196, 254	5, 166, 749	8, 894, 607	4.1	2.9	3.8
China	11, 532, 162	7, 656, 667	24, 792, 329	9.2	4.3	10.5
Egypt	43, 578, 199	110, 921, 695	157, 990, 018	34.6	61.9	66.9
Mexico	44, 077, 364	26, 818, 225	15, 868, 478	35.0	15.0	6.7
Peru	11, 338, 923	17, 433, 458	10, 335, 486	9.0	9.7	4.4
United Kingdom	6, 547, 884	5, 599, 225	5, 274, 508	5.2	3.1	2.2
Other countries	3, 667, 968	5, 569, 036	12, 936, 993	2.9	3.1	5.5
Total	125, 938, 754	179, 165, 055	236, 092, 419	100.0	100.0	100.0
Flax—	*Long tons.*	*Long tons.*	*Long tons.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	226	593	765	4.2	11.8	9.3
Canada	2, 163	710	2, 076	39.9	14.1	25.3
Chile	-------	8	73	-------	.2	.9
Denmark	2	-------	150	-------	-------	1.8
France	24	4	3	.4	.1	-------
Germany	10	85	471	.2	1.7	5.7
Italy	327	60	451	6.0	1.2	5.5
Japan	399	670	126	7.4	13.3	1.5
Latvia	-------	1	484	-------	-------	5.9
Netherlands	630	706	282	11.4	14.1	3.4
Philippine Islands	533	-------	-------	9.8	-------	-------
Poland	-------	9	344	-------	.2	4.2
Russia in Asia	191	-------	-------	3.5	-------	-------
United Kingdom	490	2, 171	2, 661	9.0	43.2	32.4
Russia, European	412	-------	-------	7.6	-------	-------
Other countries	30	4	321	.6	.1	4.1
Total	5, 427	5, 021	8, 207	100.0	100.0	100.0
Manila fiber—						
Philippine Islands	51, 008	43, 463	95, 747	98.7	99.4	99.1
Other countries	676	260	851	1.3	.6	.9
Total	51, 684	43, 723	96, 598	100.0	100.0	100.0
Sisal grass—						
Belgium	-------	748	864	-------	1.0	0.9
British East Africa	3, 193	1, 316	3, 104	2.0	1.8	3.2
Java and Madura	-------	1, 383	5, 935	-------	1.9	6.1
Mexico	142, 592	64, 000	77, 383	89.9	88.4	79.3
Other Dutch East Indies	8, 093	1, 702	2, 997	5.1	2.4	3.1
United Kingdom	2, 288	770	1, 185	1.4	1.1	1.2
Other countries	2, 424	2, 440	6, 114	1.6	3.4	6.2
Total	158, 590	72, 359	97, 582	100.0	100.0	100.0

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23[1]	1920–21	1921–22	1922–23[1]
VEGETABLE PRODUCTS—continued.						
Bananas:	*Bunches.*	*Bunches.*	*Bunches.*	*P. ct.*	*P. ct.*	*P. ct.*
Central America	27,072,105	29,952,565	29,073,239	66.3	64.9	65.3
Colombia	3,435,340	2,587,000	2,266,653	8.4	5.6	5.1
Cuba	1,871,291	1,880,952	1,916,603	4.6	4.1	4.3
Jamaica	7,102,835	10,440,110	9,881,633	17.4	22.6	22.2
Mexico	-------	1,104,374	1,189,090	-------	2.4	2.7
Other countries	1,326,103	154,631	173,978	3.3	.4	.4
Total	40,807,674	46,119,632	44,501,196	100.0	100.0	100.0
Grains:						
Rice, uncleaned (including paddy)—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
French Indo-China	-------	-------	1,282,000	-------	-------	1.0
Hongkong	298,971	168,969	317,561	0.9	2.8	2.7
Japan	32,835,831	5,408,071	2,552,505	98.7	88.3	21.9
Mexico	-------	530,183	7,137,461	-------	8.7	61.1
Other countries	133,120	15,056	388,691	.4	.2	3.3
Total	33,267,922	6,122,279	11,678,218	100.0	100.0	100.0
Rice, cleaned—						
British India	2,376,440	1,315,030	1,587,012	3.8	2.0	2.8
Germany	-------	5,315,385	2,599,180	-------	8.0	4.6
French Indo-China	3,469,571	89,000	27,773,526	5.6	.1	48.8
Hongkong	52,510,686	53,150,615	21,054,035	84.5	79.7	37.0
Mexico	809,311	2,079,614	-------	1.3	3.1	-------
United States	1,122,128	3,228,478	518,672	1.8	4.8	.9
Other countries	1,820,896	1,529,336	3,414,267	3.0	2.3	5.9
Total	62,109,032	66,707,458	56,946,692	100.0	100.0	100.0
Rice flour or meal—						
Canada	100,340	708	1,744	7.0	0.1	0.2
China	990	67	2,100	.1	-------	.2
Dutch East Indies	-------	114,258	6,394	-------	14.5	.7
French Indo-China	-------	26,500	200,000	-------	3.4	22.0
Germany	4,993	46,203	156,750	.3	5.8	17.2
Hongkong	955,185	239,970	172,992	66.9	30.4	19.0
Japan	364,000	362,047	342,903	25.5	45.8	37.6
Other countries	2,144	601	28,038	.2	-------	3.1
Total	1,427,658	790,354	910,981	100.0	100.0	100.0
Wheat—	*Bushels.*	*Bushels.*	*Bushels.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	50,694,096	14,465,502	18,012,467	99.4	100.0	100.0
Other countries	309,928	7	73	.6	-------	-------
Total	51,004,024	14,465,509	18,012,540	100.0	100.0	100.0
Wheat flour—	*Barrels.*	*Barrels.*	*Barrels.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	1,419,662	618,953	428,659	99.9	100.0	99.8
Other countries	1,222	152	762	.1	-------	.2
Total	1,420,884	619,105	429,421	100.0	100.0	100.0
Nuts:						
Filberts, shelled—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
France	150,236	622,092	539,693	6.9	11.4	8.7
Italy	214,344	372,328	277,172	9.9	6.9	4.5
Spain	1,429,164	1,692,595	4,672,896	65.9	31.1	75.3
Turkey in Europe	305,000	2,036,684	654,527	14.1	48.5	10.5
Other countries	71,181	110,719	64,285	3.2	2.1	1.0
Total	2,169,825	5,434,418	6,208,573	100.0	100.0	100.0
Filberts, not shelled—						
France	164,817	114,595	87,455	1.4	0.8	0.6
Italy	10,556,550	13,255,626	13,911,108	89.5	[2]93.8	96.8
Spain	824,504	228,261	244,377	7.0	1.6	1.7
Turkey in Europe	26,140	479,841	58,264	.2	3.4	.4
Other countries	219,478	54,711	65,071	1.9	.4	.5
Total	11,791,489	14,133,034	14,366,275	100.0	100.0	100.0
Peanuts, shelled—						
China	5,190,220	505,685	28,350,727	12.2	6.8	66.8
Chosen	-------	99,000	-------	-------	1.3	-------
Japan	35,895,990	6,658,036	12,102,549	84.2	89.6	28.5
Other countries	1,541,824	164,406	1,985,449	3.6	2.3	4.7
Total	42,628,034	7,427,127	42,438,725	100.0	100.0	100.0

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Nuts—Continued.						
Peanuts, not shelled—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada (via)	246, 601		20, 000	4.6		0.5
China	1, 642, 077	1, 435, 320	2, 462, 095	30.6	42.5	63.7
Hongkong	609, 678	55, 234	47, 607	11.4	1.6	1.2
Japan	2, 434, 963	1, 833, 183	999, 204	45.4	54.3	25.9
Spain	109, 375	22, 000	303, 593	2.0	.7	7.9
Other countries	318, 502	30, 357	29, 640	6.0	.9	.8
Total	5, 361, 196	3, 376, 094	3, 862, 139	100.0	100.0	100.0
Walnuts, shelled—						
Canada	111, 732	197, 025	254, 880	1.0	1.2	1.4
China	747, 079	2, 443, 337	1, 676, 430	7.0	14.4	9.5
France	9, 081, 602	12, 612, 527	13, 846, 640	85.3	74.1	78.6
Italy	7, 050	212, 863	286, 385	.1	1.3	1.6
Spain	256, 092	411, 871	585, 329	2.4	2.4	3.3
Turkey in Europe	24, 865	492, 941	213, 696	.2	2.9	1.2
Other countries	412, 734	655, 863	742, 732	4.0	3.7	4.4
Total	10, 641, 154	17, 026, 927	17, 606, 092	100.0	100.0	100.0
Walnuts, not shelled—						
Canada	360, 353	272, 908	199, 738	2.9	0.6	1.0
Chile	391, 603	4, 397, 718	574, 467	3.1	10.2	2.9
China	1, 226, 258	9, 364, 788	1, 591, 683	9.8	21.7	8.0
France	3, 142, 661	7, 780, 067	8, 487, 674	25.1	18.0	42.6
Italy	6, 164, 762	12, 996, 126	8, 497, 492	49.2	30.1	42.7
Japan	597, 050	2, 337, 671	100, 700	4.8	5.4	.5
Rumania		4, 025, 488	73, 218		9.3	.4
Turkey in Europe		893, 847	18, 673		2.1	.1
Other countries	642, 441	1, 137, 765	369, 774	5.1	2.6	1.8
Total	12, 525, 128	43, 206, 378	19, 913, 419	100.0	100.0	100.0
Oils, vegetable:						
Cocoanut—						
British India	213, 329	1, 442, 671	1, 492, 431	0.1	0.6	0.7
Dutch East Indies	50, 977, 660			29.3		
French Oceania	1, 364, 732	1, 119, 833		.8	.5	
Philippine Islands	115, 563, 356	226, 651, 680	210, 968, 211	66.5	98.4	99.2
Other countries	5, 769, 881	1, 021, 943	112, 775	3.3	.5	.1
Total	173, 888, 958	230, 236, 127	212, 573, 417	100.0	100.0	100.0
Olive, edible—	*Gallons.*	*Gallons.*	*Gallons.*	*P. ct.*	*P. ct.*	*P. ct.*
France	532, 135	858, 209	1, 079, 165	12.0	10.8	10.8
Greece in Asia		188, 465	4, 469		2.4	
Greece in Europe	678, 510	808, 557	471, 709	15.3	10.1	4.7
Italy	1, 756, 761	1, 913, 226	5, 858, 119	39.5	24.1	58.8
Spain	1, 305, 992	2, 173, 736	2, 428, 439	29.4	27.3	24.4
Turkey in Asia	91, 777	3, 746		2.0		
Turkey in Europe	[2] 3, 279	368	76, 370	.1		.8
Other countries	75, 963	2, 008, 415	40, 852	1.7	25.3	.5
Total	4, 444, 417	7, 949, 722	9, 959, 123	100.0	100.0	100.0
Soy bean oil—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
China	3, 418, 933	3, 904, 328	2, 105, 590	6.9	47.1	5.4
Japan	13, 495, 908	1, 133	4, 190, 610	27.4		10.8
Kwantung, leased territory	31, 885, 396	2, 838, 600	31, 621, 507	64.6	34.3	81.8
Philippine Islands		1, 027, 058			12.4	
Other countries	530, 408	511, 440	717, 674	1.1	6.2	2.0
Total	49, 330, 645	8, 282, 559	38, 635, 381	100.0	100.0	100.0
Opium (morphia 9 per cent and more):						
France		1, 654			1.1	
Greece in Asia		21, 831			15.1	
Greece in Europe	11, 173	62, 579	39, 386	14.4	43.4	34.4
Turkey, Asiatic	26, 306	1, 693		34.0	1.2	
Turkey, European	37, 060	53, 337	53, 382	47.9	37.3	46.6
United Kingdom			18, 551			16.2
Other countries	2, 905	2, 684	3, 280	3.7	1.9	2.8
Total	77, 444	144, 278	[3] 114, 599	100.0	100.0	100.0

[1] Preliminary. [2] Jan. 1–June 30, 1921. [3] Beginning Sept. 22.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Spices:						
Pepper, unground—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
British India	3,759,280	4,625,092	6,900,406	17.1	12.5	20.6
Ceylon		14,975	284,132			.8
Java and Madura	8,299,073	25,136,204	18,170,245	37.8	66.0	54.2
Netherlands	2,718,786	529,274	285,144	12.4	1.4	.8
Other Dutch East Indies		175,284	424,315		.5	1.3
Straits Settlements	2,402,783	3,794,021	5,130,284	11.0	10.3	15.3
United Kingdom	3,684,531	628,230	473,376	16.8	1.7	1.4
Other countries	1,065,267	2,045,014	1,879,856	4.9	5.6	5.6
Total	21,929,720	36,948,094	33,547,758	100.0	100.0	100.0
Seeds:						
Flaxseed—	*Bushels.*	*Bushels.*	*Bushels.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	13,145,310	10,408,928	22,330,931	81.3	76.4	89.3
British India		12,041			.1	
Canada	2,635,025	3,012,515	2,191,103	16.3	22.1	8.8
Other countries	390,080	198,589	483,902	2.4	1.4	1.9
Total	16,170,415	13,632,073	25,005,936	100.0	100.0	100.0
Grass seed, clover, red—						
Canada	253,738	464,626	131,284	1.7	5.0	21.5
Chile		509,646			5.5	
Czechoslovakia		393,680	10,910		4.2	1.8
France	13,282,305	2,461,023	245,766	91.5	26.5	40.4
Germany	406,020	3,345,976	52,848	2.8	36.0	8.7
Italy	261,081	1,531,695		1.8	16.5	
Poland		425,947	132,000		4.6	21.7
United Kingdom	157,908	36,300	35,858	1.1	.4	5.9
Other countries	153,816	120,760		1.1	1.3	
Total	14,514,868	9,289,653	608,666	100.0	100.0	100.0
All other, including alsike, crimson and all other—						
Canada	9,656,014	10,279,434	10,482,073	54.4	61.7	78.9
Chile	53,200	363,590		.3	2.2	
Czechoslovakia	156,365	179,441	56,491	.9	1.1	.4
France	5,495,924	1,661,501	1,569,395	31.0	10.0	11.8
Germany	1,841,222	3,335,442	303,289	10.4	20.0	2.3
Italy		457,672			2.7	
Poland		6,633	64,953			.5
United Kingdom	179,832	96,450	475,639	1.0	.6	3.6
Other countries	357,281	282,940	341,708	2.0	1.7	2.5
Total	17,739,838	16,663,103	13,293,458	100.0	100.0	100.0
Sugar, raw cane:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Central America	79,339,748	43,738,777	68,776,724	1.1	0.5	0.8
Cuba	4,925,630,505	7,720,255,237	7,730,592,152	70.5	91.2	91.8
Dominican Republic	210,659,825	93,067,270	3,479,673	3.0	1.1	
Dutch East Indies	577,847,164	6,914		8.3		
Hongkong	41,877,044	571,774	2,742,723	.6		
Mexico	23,581,238	42,711,737	29,953,811	.3	.5	.4
Other South America	206,053,035	7,537,218	4,354,242	3.0	.1	.1
Peru	159,125,034	177,600	8,791,816	2.3		.1
Philippine Islands	337,143,949	538,469,767	553,232,644	4.8	6.4	6.6
Other countries	422,938,419	17,792,252	20,559,354	6.1	.2	.2
Total	6,984,195,961	8,464,328,546	8,422,483,139	100.0	100.0	100.0
Tea:						
British East Indies	19,955,562	21,394,328	19,842,170	27.6	24.8	20.5
Canada	1,493,041	677,483	791,745	2.1	.8	.8
China	9,091,375	16,211,659	13,507,750	12.6	18.8	14.0
Dutch East Indies	5,578,452	6,674,097	8,666,908	7.4	7.7	9.0
Japan	25,021,992	26,639,127	35,974,918	34.7	30.9	37.2
United Kingdom	9,053,415	11,293,042	15,545,681	12.5	13.1	16.1
Other countries	2,202,236	3,251,713	2,339,436	3.1	3.9	2.4
Total	72,196,053	86,141,949	96,668,608	100.0	100.0	100.0

[1] Preliminary.

TABLE 660.—*Origin of principal farm products imported into the United States, year ending June 30, 1921–1923*—Continued.

Article and country of origin.	1920–21	1921–22	1922–23 [1]	1920–21	1921–22	1922–23 [1]
VEGETABLE PRODUCTS—continued.						
Tobacco, leaf:						
Unmanufactured—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
British South Africa	32	23,090	2			
Bulgaria	1,872,576	928,357	296,027	3.2	1.4	0.4
Canada	20,710	63,718	67,085		.1	.1
China	658,011	287,510	217,549	1.1	.4	.3
Cuba	18,292,491	21,401,159	23,188,132	31.0	32.8	31.4
Dominican Republic	788,151	192,542	562	1.3	.3	
Dutch East Indies	2,345,610	172,041	119,016	4.0	.3	.2
Egypt	15,529	88,968	81,617		.1	.1
Germany	127,047	2,647,612	2,481,680	.2	4.1	3.4
Greece in Asia		5,263,690	19,320,764		8.1	26.2
Greece in Europe	11,546,181	15,058,819	8,024,362	19.6	23.1	11.7
Mexico	1,554	3,415	29,738			
Netherlands	8,004,343	5,459,354	9,700,553	13.6	8.4	13.1
Persia	11,681	79,800	6,506		.1	
Philippine Islands	1,850,960	503,840	1,921,921	3.1	.8	2.6
Turkey in Asia	10,953,598	11,325	1,284,647	18.6		1.7
Turkey in Europe	813,161	4,795,334	4,580,140	1.4	7.4	6.2
United Kingdom	553,384	1,246,420	614,788	.9	1.9	.8
Other countries	1,068,198	6,978,443	1,258,783	2.0	10.7	1.8
Total	58,923,217	65,225,437	73,793,872	100.0	100.0	100.0
Onions:	*Bushels.*	*Bushels.*	*Bushels.*	*P. ct.*	*P. ct.*	*P. ct.*
Australia	3,440	119,389	3,423	.5	4.8	0.2
Bermuda	27,907	33,759	17,548	4.1	1.4	1.0
Canada	8,448	65,902	38,777	1.2	2.6	2.2
Canary Islands	14,361	17,888	13,495	2.1	.7	.8
Egypt	5,692	242,544	446,977	.8	9.8	25.2
Italy	7,597	73,597	10,732	1.1	3.0	.6
Mexico	257	26,023	19,597		1.0	1.1
Netherlands	1,711	65,643	33,485	.2	2.6	1.9
Spain	575,322	1,522,311	985,331	83.6	61.2	55.5
United Kingdom	42,807	247,423	157,264	6.2	9.9	8.9
Other countries	972	73,086	50,148	.2	3.0	2.6
Total	688,574	2,487,565	1,776,777	100.0	100.0	100.0
FOREST PRODUCTS.						
India rubber, crude:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Brazil	26,473,094	21,125,055	30,771,572	7.4	3.7	3.9
British East Indies	247,569,610	379,810,068	547,799,814	69.4	66.8	68.7
Canada	250,545	51,335	379,604	.1		
Dutch East Indies	52,374,163	72,924,828	113,064,802	14.7	12.8	14.2
France	219,634	995,282	2,742,632	.1	.2	.3
Mexico	365,337	349,471	144,253	.1	.1	
Netherlands	4,609,186	21,652,700	10,821,152	1.3	3.8	1.4
Other South America	1,756,490	743,925	2,033,793	.5	.1	.3
Peru	1,400,154	286,177	1,574,697	.4	.1	.2
Portugal	1,761,672	1,396,078	10,748	.5	.2	
United Kingdom	16,193,253	62,728,626	75,700,650	4.5	11.0	9.5
Other countries	4,002,085	7,317,863	12,611,432	1.0	1.2	1.5
Total	356,975,223	568,381,428	797,655,149	100.0	100.0	100.0
Wood:						
Cabinet-wood, mahogany—	*M feet.*	*M feet.*	*M feet.*	*P. ct.*	*P. ct.*	*P. ct.*
British Africa	15,951	16,106	8,464	29.0	40.3	19.7
Central America	23,080	16,497	17,575	42.0	41.2	40.9
French Africa (including Algeria and Tunis)	5,172	1,161	6,307	9.4	2.9	14.7
Mexico	4,649	3,163	5,221	8.5	7.9	12.2
United Kingdom	3,762	1,480	3,923	6.8	3.6	9.1
Other countries	2,307	1,646	1,453	4.3	4.1	3.4
Total	54,921	40,003	42,943	100.0	100.0	100.0

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, and official records of the Bureau of Foreign and Domestic Commerce.

[1] Preliminary.

TABLE 661.—*Foreign trade of the United States in agricultural products, 1852–1923.*

Year ending June 30.	Agricultural exports.[1]			Agricultural imports.[1]		Excess of agricultural exports (+) or of imports (−).	Forest products.			
	Domestic.						Exports.			
	Total.	Percentage of all exports.	Foreign.	Total.	Percentage of all imports.		Domestic.	Foreign.	Imports.	Excess of exports (+) or of imports (−).
Average:	*Thousands.*	*Per cent.*	*Thousands.*	*Thousands.*	*Per cent.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
1852–1856	$164,895	80.9	$8,060	$77,847	29.1	+$95,108	$6,819	$694	$3,256	+$4,257
1857–1861	215,709	81.1	10,174	121,018	38.2	+104,865	9,995	962	6,942	+4,015
1862–1866	148,866	75.7	9,288	122,222	43.0	+35,932	7,366	796	8,511	−347
1867–1871	250,713	76.9	8,538	179,774	42.3	+79,477	11,775	691	14,813	−2,347
1872–1876	396,666	78.5	8,853	263,156	46.5	+142,364	17,907	900	19,728	−862
1877–1881	591,351	80.4	8,632	266,384	50.4	+333,599	17,579	553	22,006	−3,784
1882–1886	557,473	76.3	9,340	311,708	46.8	+255,106	24,705	1,417	34,253	−8,131
1887–1891	573,287	74.7	6,982	366,950	43.3	+213,319	26,061	1,443	39,647	−12,144
1892–1896	638,748	73.0	8,446	398,332	51.6	+248,863	29,276	1,707	45,091	−14,107
1897–1901	827,566	65.9	10,962	376,550	50.2	+461,978	45,961	3,283	52,327	−3,083
1902–1906	879,541	59.5	11,922	487,881	46.3	+403,583	63,585	3,850	79,885	−12,451
1907–1911	975,399	53.9	12,126	634,571	45.2	+352,954	88,764	6,488	137,051	−41,799
1912–1916	1,256,452	45.1	24,275	924,699	50.1	+356,028	92,129	5,563	185,398	−87,706
1900–1	951,028	65.2	11,293	391,931	47.6	+570,990	55,369	3,599	57,144	+1,825
1901–2	857,114	63.2	10,308	413,745	45.8	+453,677	48,929	3,609	59,187	−6,649
1902–3	878,481	63.1	13,505	456,199	44.5	+435,787	58,734	2,865	71,478	−9,879
1903–4	859,160	59.5	12,625	461,435	46.6	+410,350	70,086	4,177	79,619	−5,356
1904–5	826,905	55.4	12,317	553,851	49.6	+285,370	63,199	3,790	92,681	−25,691
1905–6	976,047	56.7	10,856	554,175	45.2	+432,728	76,975	4,809	96,462	−14,678
1906–7	1,054,405	56.9	11,614	626,837	43.7	+439,182	92,949	5,500	122,421	−23,972
1907–8	1,017,396	55.5	10,299	539,690	45.2	+488,005	90,362	4,570	97,733	−2,801
1908–9	903,238	55.1	9,585	638,613	48.7	+274,210	72,442	4,983	123,920	−46,495
1909–10	871,158	50.9	14,470	687,509	44.2	+198,119	85,030	9,802	178,872	−84,040
1910–11	1,030,794	51.2	14,665	680,205	44.5	+365,254	103,039	7,587	162,312	−51,686
1911–12	1,050,627	48.4	12,108	783,457	47.4	+279,277	108,122	6,413	172,523	−57,988
1912–13	1,123,652	46.3	15,029	815,301	45.0	+323,381	124,836	7,432	180,502	−48,235
1913–14	1,113,974	47.8	17,729	924,247	48.8	+207,456	106,979	4,518	155,261	−43,765
1914–15	1,475,938	54.3	34,420	910,786	54.4	+599,571	52,554	5,089	165,849	−108,207
1915–16	1,518,071	35.5	42,088	1,189,705	54.1	+370,454	68,155	4,364	252,851	−180,331
1916–17	1,968,253	31.6	37,640	1,404,972	52.8	+600,921	68,919	11,172	322,699	−242,609
1917–18	2,280,466	39.1	39,553	1,618,874	55.0	+701,144	87,181	6,066	335,033	−241,787
1918–19	3,579,918	50.6	103,530	1,768,191	57.1	+1,915,257	113,275	6,004	293,781	−174,501
1919–20	3,861,511	48.6	122,598	3,129,659	59.7	+854,450	190,049	11,026	508,410	−307,334
1920–21	2,607,641	40.8	87,019	1,941,837	53.1	+752,823	141,876	7,805	343,141	−193,460
1921–22	1,915,371	51.8	40,590	1,279,072	49.0	+676,889	93,586	5,275	249,587	−150,726
1922–23[2]	3,798,771	46.3	43,249	1,893,968	50.1	−51,948	128,242	7,149	412,162	−276,771

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1852–1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922, and 1923, Bureau of Foreign and Domestic Commerce. All values are gold.

[1] Not including forest products.
[2] Preliminary.

TABLE 662.—*Imports of fruit stocks, rose stocks, bulbs, and tree seeds permitted unlimited entry, by countries of origin, years ending June 30, 1921–1923.*[1]

Countries.	1920-21				1921-22				1922-23			
	Fruit stocks.	Rose stocks.	Bulbs.	Tree seeds.	Fruit stocks.	Rose stocks.	Bulbs.	Tree seeds.	Fruit stocks.	Rose stocks.	Bulbs.	Tree seeds.
	Number.	*Number.*	*Number.*	*Pounds.*	*Number.*	*Number.*	*Number.*	*Pounds.*	*Number.*	*Number.*	*Number.*	*Pounds.*
Argentina												220
Australia				189, 925				57, 925				29, 117
Austria	1, 018			2, 499				4, 923				4, 451
Azores			30, 000				19, 000				27, 950	
Belgium						2, 050						
Bermuda			102, 986				179, 286				311, 995	460
Brazil				2, 438				1, 276				1, 477
British Guiana				100				304				
Canada				35				120				928
Canary Islands			6, 172									
Ceylon								75				
Chile								5	2, 000			85
China			4, 343, 136	150			1, 003, 085	744			1, 279, 294	3, 350
Costa Rica	200			75					100			
Cuba				1, 000	174, 600			105				984
Czechoslovakia	208											
Denmark												30
England	100	1, 181, 100	1, 082, 601	15, 000	162	1, 871, 600	339, 024	380	180	2, 035, 800	449, 464	25
France	18, 995, 767	2, 176, 282	45, 039, 413	32, 532	18, 079, 001	2, 432, 040	42, 311, 108	44, 491	17, 538, 115	2, 451, 700	40, 624, 911	30, 627
Germany			16, 660, 025	3, 814			12, 628, 750	3, 284	150, 100		18, 139, 025	1, 992
Holland	2, 276, 951	2, 264, 010	115, 077, 763	3, 387	1, 149, 675	2, 325, 933	132, 396, 594	80	2, 913, 749	2, 886, 909	149, 475, 921	2
Honduras								150				
India				1, 178								
Ireland		269, 800	1, 000			100, 000				161, 000		
Italy	128, 309		3, 341, 000	2, 147	906, 350		385, 524	409	468, 700		1, 753, 389	1, 876
Japan	8, 000		6, 284, 786	10, 607			7, 233, 865	11, 759			8, 208, 162	17, 142
Luxemburg						500						
Mexico	1, 500											
Norway					50							
Poland								983				693
Scotland		43, 000				40, 000				40, 000		
Siam								375				
Spain								304	2, 640			
Sweden								25			9, 275	69
West Indies								1, 100				260

Federal Horticultural Board.

[1] This does not include the comparatively small quantities of bulbs and other plants imported under special permits.

MISCELLANEOUS AGRICULTURAL STATISTICS.

CROP SUMMARY.

TABLE 663.—*Acreage, production, and farm value, 1921–1923.*

Crop.		Acreage.	Production.			Farm value, Dec. 1.	
			Per acre.	Total.	Unit.	Per unit.	Total.
		Acres.				*Dolls.*	*Dollars.*
Corn	1921	103, 740, 000	29. 6	3, 068, 569, 000	Bushel	0. 423	1, 297, 213, 000
	1922	102, 846, 000	26. 3	2, 906, 020, 000	do	. 658	1, 910, 775, 000
	1923	104, 158, 000	29. 3	3, 054, 395, 000	do	. 727	2, 222, 013, 000
Winter wheat	1921	43, 414, 000	13. 8	600, 316, 000	do	. 951	571, 044, 000
	1922	42, 358, 000	13. 8	586, 878, 000	do	1. 047	614, 399, 000
	1923	39, 522, 000	14. 5	572, 340, 000	do	. 950	543, 825, 000
Spring wheat	1921	20, 282, 000	10. 6	214, 589, 000	do	. 856	183, 790, 000
	1922	19, 959, 000	14. 1	280, 720, 000	do	. 923	259, 013, 000
	1923	18, 786, 000	11. 4	213, 401, 000	do	. 851	181, 676, 000
All wheat	1921	63, 696, 000	12. 8	814, 905, 000	do	. 926	754, 834, 000
	1922	62, 317, 000	13. 9	867, 598, 000	do	1. 007	873, 412, 000
	1923	58, 308, 000	13. 5	785, 741, 000	do	. 923	725, 501, 000
Oats	1921	45, 495, 000	23. 7	1, 078, 341, 000	do	. 302	325, 954, 000
	1922	40, 790, 000	29. 8	1, 215, 803, 000	do	. 394	478, 948, 000
	1923	40, 883, 000	31. 8	1, 299, 823, 000	do	. 415	539, 253, 000
Barley	1921	7, 414, 000	20. 9	154, 940, 000	do	. 419	64, 934, 000
	1922	7, 317, 000	24. 9	182, 068, 000	do	. 525	95, 560, 000
	1923	7, 905, 000	25. 1	198, 185, 000	do	. 540	106, 955, 000
Rye	1921	4, 528, 000	13. 6	61, 575, 000	do	. 697	42, 914, 000
	1922	6, 672, 000	15. 5	103, 362, 000	do	. 685	70, 841, 000
	1923	5, 157, 000	12. 2	63, 023, 000	do	. 647	40, 804, 000
Buckwheat	1921	680, 000	20. 9	14, 207, 000	do	. 812	11, 540, 000
	1922	764, 000	19. 1	14, 564, 000	do	. 885	12, 889, 000
	1923	737, 000	18. 9	13, 920, 000	do	. 933	12, 984, 000
Flaxseed	1921	1, 108, 000	7. 2	8, 029, 000	do	1. 451	11, 648, 000
	1922	1, 113, 000	9. 3	10, 375, 000	do	2. 115	21, 941, 000
	1923	2, 061, 000	8. 5	17, 429, 000	do	2. 108	36, 733, 000
Rice	1921	921, 000	40. 8	37, 612, 000	do	. 952	35, 802, 000
	1922	1, 055, 000	39. 2	41, 405, 000	do	. 931	38, 562, 000
	1923	892, 000	37. 3	33, 256, 000	do	1. 103	36, 684, 000
Potatoes	1921	3, 941, 000	91. 8	361, 659, 000	do	1. 101	398, 362, 000
	1922	4, 307, 000	105. 3	453, 396, 000	do	. 581	263, 355, 000
	1923	3, 816, 000	108. 1	412, 392, 000	do	. 823	339, 322, 000
Sweet potatoes	1921	1, 066, 000	92. 5	98, 654, 000	do	. 881	86, 894, 000
	1922	1, 117, 000	97. 9	109, 394, 000	do	. 771	84, 295, 000
	1923	993, 000	97. 9	97, 177, 000	do	. 979	95, 091, 000
Hay, tame	1921	58, 769, 000	1. 40	82, 379, 000	Tons	12. 11	997, 527, 000
	1922	61, 159, 000	1. 57	95, 882, 000	do	12. 56	1, 204, 101, 000
	1923	60, 162, 000	1. 48	89, 098, 000	do	14. 07	1, 253, 364, 000
Hay, wild	1921	15, 632, 000	. 98	15, 391, 000	do	6. 63	101, 991, 000
	1922	15, 871, 000	1. 02	16, 131, 000	do	7. 14	115, 176, 000
	1923	15, 722, 000	1. 11	17, 528, 000	do	7. 85	137, 603, 000
All Hay	1921	74, 401, 000	1. 31	97, 770, 000	do	11. 25	1, 099, 518, 000
	1922	77, 030, 000	1. 45	112, 013, 000	do	11. 78	1, 319, 277, 000
	1923	75, 884, 000	1. 41	106, 626, 000	do	13. 05	1, 390, 967, 000
Tobacco	1921	1, 427, 000	750	1, 069, 693, 000	Pounds	. 199	212, 728, 000
	1922	1, 695, 000	736	1, 246, 837, 000	do	. 232	289, 248, 000
	1923	1, 820, 000	810	1, 474, 786, 000	do	. 203	298, 936, 000
Cotton	1921	30, 509, 000	[1] 124. 5	[2] 7, 953, 641	Bales	[3] . 162	643, 933, 000
	1922	33, 036, 000	[1] 141. 5	[2] 9, 761, 817	do	[3] . 233	1, 161, 846, 000
	1923	37, 420, 000	[1] 128. 8	10, 081, 000	do	[3] . 310	1, 563, 347, 000
Cottonseed	1921	----------	----------	[2] 3, 531, 000	Tons	29. 15	102, 929, 000
	1922	----------	----------	[2] 4, 336, 000	do	40. 18	174, 220, 000
	1923	----------	----------	4, 476, 000	do	45. 92	205, 538, 000
Cloverseed	1921	889, 000	1. 7	1, 538, 000	Bushel	10. 75	16, 529, 000
	1922	1, 156, 000	1. 6	1, 887, 000	do	10. 06	18, 971, 000
	1923	900, 000	1. 5	1, 233, 000	do	12. 19	15, 027, 000

[1] Pounds per acre. [2] Census. [3] Per pound.

TABLE 663.—*Acreage, production, and farm value, 1921–1923*—Continued.

Crop		Acreage.	Production.			Farm value, Dec. 1.	
			Per acre.	Total.	Unit.	Per unit.	Total.
		Acres.				*Dolls.*	*Dollars.*
Sugar beets	1922 [4]	530,000	9.77	5,183,000	Tons	7.91	41,016,080
	1923 [4]	651,000	10.59	6,893,000	do	7.91	[11] 49,890,000
Beet sugar	1922 [4]	530,000	1.27	675,000	do		
	1923 [4]	651,000	1.36	884,000	do		
Cane sugar (La.)	1922	241,000	1.22	295,000	do		
	1923	228,000	.74	167,000	do		
Maple sugar and sirup (as sugar)	1922	[5] 10,274,000	[6] 2.11	34,263,000	Pounds	[7] .219	7,504,000
	1923	[5] 15,291,000	[6] 2.19	33,533,000	do	[7] .232	7,780,000
Sorghum sirup	1921	518,000	88.0	45,566,000	Gallons	.620	28,681,000
	1922	447,000	81.5	36,440,000	do	.710	25,855,000
	1923	380,000	84.2	32,001,000	do	.862	27,895,000
Peanuts	1921	1,214,000	683	829,307,000	Pounds	.040	33,097,000
	1922	1,005,000	630	633,114,000	do	.047	29,613,000
	1923	884,000	720	636,462,000	do	.068	43,078,000
Beans [8]	1921	777,000	11.8	9,150,000	Bushel	2.67	24,399,000
	1922	1,074,000	11.9	12,784,000	do	3.74	47,640,000
	1923	1,297,000	12.1	15,740,000	do	3.65	57,480,000
Grain sorghums [8]	1921	4,635,000	24.6	113,990,000	do	.391	44,575,000
	1922	5,064,000	17.9	90,524,000	do	.878	79,503,000
	1923	5,776,000	18.3	105,619,000	do	.941	99,353,000
Broomcorn [8]	1921	222,000	344	38,200	Tons	72.20	2,758,000
	1922	275,000	271	37,300	do	219.46	8,186,000
	1923	498,000	278	69,300	do	160.61	11,130,000
Onions [8 9]	1922	63,290	296	18,763,000	Bushel	[10] .85	15,876,000
	1923	61,100	267	16,318,000	do	[10] 1.35	22,011,000
Cabbage [8 9]	1922	131,780	8.1	1,062,800	Tons	[10] 11.83	12,568,000
	1923	98,200	7.5	740,000	do	[10] 23.22	17,183,000
Hops [8]	1921	27,000	1,087	29,340,000	Pounds	.241	7,080,000
	1922	23,400	1,186	27,744,000	do	.086	2,383,000
	1923	15,800	1,125	17,770,000	do	.187	3,329,000
Cranberries [8]	1921	25,000	15.4	384,000	Barrels	16.99	6,526,000
	1922	25,000	22.4	560,000	do	10.18	5,702,000
	1923	25,000	24.4	610,000	do	7.25	4,423,000
Apples, total	1921			99,002,000	Bushel	1.68	166,343,000
	1922			202,702,000	do	.986	199,848,000
	1923			196,770,000	do	1.022	201,110,000
Apples, commercial	1921			21,557,000	Barrels	4.60	99,131,000
	1922			31,945,000	do	2.93	93,636,000
	1923			34,303,000	do	2.80	95,979,000
Peaches	1921			32,602,000	Bushel	1.587	51,739,000
	1922			55,852,000	do	1.338	74,717,000
	1923			45,702,000	do	1.40	64,042,000
Pears	1921			11,297,000	do	1.706	19,268,000
	1922			20,705,000	do	1.06	21,943,000
	1923			17,390,000	do	1.211	21,053,000
Oranges (2 States)	1921			20,300,000	Boxes	2.51	51,000,000
	1922			30,200,000	do	2.10	63,310,000
	1923			34,800,000	do	1.84	64,080,000
Total	1921	348,431,500					5,631,373,000
	1922	350,094,470					7,449,804,000
	1923	350,698,100					8,322,695,000

Division of Crop and Livestock Estimates.

[4] Including beets grown in Canada for United States factories.
[5] Trees tapped.
[6] Per tree.
[7] Price March 15.
[8] Principal producing States.
[9] Commercial crop.
[10] Price for season.
[11] Largely minimum contract price.

TABLE 664.—*Crop acreages, aggregates, by States, 1921–1923.*

State.	Acreage of 19 crops.			Per cent of total acreage in specified crops.[1]	Total acreage of all crops (theoretical).		
	1921	1922	1923		1921	1922	1923
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Maine	1,571	1,537	1,546	96	1,636	1,601	1,610
New Hampshire	520	523	512	94	553	556	545
Vermont	1,122	1,139	1,144	93	1,206	1,225	1,230
Massachusetts	564	567	566	86	656	659	658
Rhode Island	64	63	61	84	76	75	73
Connecticut	475	476	474	88	540	541	539
New York	8,073	8,128	8,081	91	8,871	8,932	8,880
New Jersey	904	902	896	86	1,051	1,049	1,042
Pennsylvania	7,973	7,781	7,689	97	8,220	8,022	7,927
Delaware	408	419	412	89	458	471	463
Maryland	1,803	1,805	1,760	91	1,981	1,984	1,934
Virginia	4,467	4,578	4,517	93	4,803	4,923	4,857
West Virginia	1,888	1,927	1,884	95	1,987	2,028	1,983
North Carolina	6,240	6,799	6,852	94	6,638	7,233	7,289
South Carolina	5,692	5,278	5,399	92	6,187	5,737	5,868
Georgia	10,499	9,580	9,316	94	11,169	10,191	9,911
Florida	1,147	1,198	1,269	89	1,289	1,346	1,426
Ohio	11,350	11,557	11,192	97	11,701	11,914	11,538
Indiana	11,491	11,473	11,487	96	11,970	11,951	11,966
Illinois	20,256	20,171	20,288	97	20,882	20,795	20,915
Michigan	8,604	9,030	8,899	93	9,252	9,710	9,569
Wisconsin	9,644	9,679	9,637	90	10,716	10,754	10,708
Minnesota	16,665	16,963	17,073	96	17,359	17,670	17,784
Iowa	21,058	21,069	21,072	97	21,709	21,721	21,724
Missouri	15,034	14,568	14,798	96	15,661	15,175	15,415
North Dakota	18,537	19,184	18,867	96	19,309	19,983	19,653
South Dakota	15,516	15,596	15,440	98	15,833	15,914	15,755
Nebraska	18,263	18,234	18,367	97	18,828	18,798	18,935
Kansas	21,076	21,154	20,539	93	22,662	22,746	22,085
Kentucky	5,706	5,868	5,773	95	6,006	6,177	6,077
Tennessee	6,458	6,657	6,508	91	7,097	7,315	7,152
Alabama	7,964	7,885	7,842	93	8,563	8,478	8,432
Mississippi	6,564	6,642	6,395	96	6,838	6,919	6,661
Louisiana	3,856	3,820	3,889	91	4,237	4,198	4,274
Texas	24,324	23,778	25,689	92	26,439	25,846	27,923
Oklahoma	13,849	14,268	14,562	93	14,891	15,342	15,658
Arkansas	6,392	6,364	6,301	93	6,873	6,843	6,775
Montana	5,567	6,672	6,744	87	6,399	7,669	7,752
Wyoming	1,442	1,552	1,636	90	1,602	1,724	1,818
Colorado	5,332	5,270	5,612	85	6,273	6,200	6,602
New Mexico	1,089	839	926	78	1,396	1,076	1,187
Arizona	430	454	492	85	506	534	579
Utah	1,018	1,078	1,073	88	1,157	1,225	1,219
Nevada	391	395	388	98	399	403	396
Idaho	2,691	2,703	2,706	91	2,957	2,970	2,974
Washington	4,026	3,929	3,948	86	4,681	4,569	4,591
Oregon	2,812	2,800	2,840	80	3,515	3,500	3,550
California[2]	5,078	5,264	5,195	75	6,771	7,019	6,927
United States	345,893	347,616	348,556	93.8	369,803	371,711	372,829

Division of Crop and Livestock Estimates. Estimated total acreage of 19 crops—corn, wheat, oats, barley, rye, buckwheat, potatoes, sweet potatoes, tobacco, flax, rice, all hay, cotton, peanuts, kafirs, beans, broom corn, hops, and cranberries.

[1] Based on census proportions in 1919.

[2] Includes cotton acreage in Lower California (85,000 acres in 1921, 125,000 acres in 1922, and 148,000 acres in 1923).

TABLE 665.—*Seed used per acre, approximate averages for the United States.*

Crop.	Average of reports.	Estimated range of bulk of plantings.	Crop.	Average of reports.	Estimated range of bulk of plantings.
Alfalfa:			Field peas:		
Broadcast..pounds..	18.3	15 to 20.	Small.....bushels..	0.93	0.75 to 1.25.
Drilled.....do....	14.8	12 to 18.	Large.....do....	1.17	1 to 1.5.
Barley.....bushels..	1.84	1.5 to 2.	Flaxseed.....pounds..	29.2	25 to 30.
Beans, field:			Oats.....bushels..	2.37	2 to 2.5.
Small.....do....	.76	0.5 to 1.	Orchard grass		
Large.....do....	1.29	1 to 1.5.	.....pounds..	12.6	10 to 15.
Beets, common (not sugar).....pounds..	6.3	5.5 to 7.5.	Peanuts.....bushels..	1.02	1 to 1.1.
Blue grass.....bushels..	1.07	0.75 to 1.25.	Potatoes.....do....	8.6	7 to 12.
Broom corn....pounds..	6.0	3 to 7.	Rice.....do....	1.98	1.5 to 2.5.
Buckwheat.....bushels..	.98	0.75 to 1.25.	Rye:		
Cabbage plants			For grain.....do....	1.44	1.25 to 1.75.
.....number..	5,668.0	5,000 to 7,000.	For forage.....do....	1.82	1.5 to 2.
Clover:			Soy beans:		
Alsike.....pounds..	8.7	8 to 12.	Drilled.....do....	.79	0.50 to 1.
Japan.....do....	9.9	9 to 15.	Broadcast.....do....	1.37	1 to 1.50.
Mammoth....do....	10.4	8 to 12.	Sugar beets....pounds..	13.1	12 to 18.
Red, alone....do....	10.7	8 to 12.	Sweet potato plants		
Red, on grain..do....	9.8	8 to 12.	.....number..	6,605.0	6,000 to 7,000.
Crimson.....do....	12.1	10 to 15.	Timothy.....pounds..	9.4	8 to 12.
Corn:			Tobacco plants		
For grain.....do....	9.5	6 to 12.	.....number..	4,762.0	
Fodder, for silage			Wheat.....bushels..	1.38	1.25 to 1.75.
.....pounds..	26.0	15 to 35.			
Cotton.....bushels..	.96	0.9 to 1.1.			
Cowpeas:					
For forage.....do....	1.31	1 to 1.5.			
In drill with corn					
.....bushels..	.63	0.40 to 0.65.			
For seed.....do....	.70	0.50 to 0.75.			

Division of Crop and Livestock Estimates. As reported by crop reporters in 1913.

TABLE 666.—*Crops: Index numbers, condition of growing crops, 1910–1923.*

Year.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Year.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.
1910...	.....	.....	93.5	97.2	99.6	99.3	1917..	94.2	97.8	99.8	102.5	102.4	102.0
1911...	97.2	89.3	85.4	84.8	86.7	90.6	1918..	102.9	101.6	98.9	94.1	96.6	97.6
1912...	99.1	98.8	100.3	104.1	110.0	107.7	1919..	104.7	102.3	97.8	98.8	98.7	99.8
1913...	98.9	98.2	95.5	89.9	90.3	93.3	1920..	94.8	99.7	105.4	107.0	106.9	106.9
1914...	102.2	101.5	98.0	97.9	99.4	102.3	1921..	93.2	96.4	93.0	92.9	91.1	91.7
1915...	102.3	103.3	103.9	105.5	106.9	108.0	1922..	99.2	97.9	101.2	98.8	98.7	96.7
1916...	97.7	101.6	97.4	94.6	94.5	95.1	1923..	95.3	96.4	97.4	98.3	98.4	96.1

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10-year moving average of condition, weighted by States according to crop values in 1919.

TABLE 667.—*Crops: Index numbers of all crop yields, 1911–1923.*

State and division.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Maine	98.2	102.0	101.6	118.4	86.8	116.2	99.7	99.6	105.9	89.6	95.4	84.0	120.8
New Hampshire	93.2	119.0	89.2	113.8	84.5	121.8	110.3	105.7	104.7	104.2	93.8	104.5	107.8
Vermont	100.0	118.0	97.7	102.7	97.6	118.8	110.3	97.0	104.1	104.0	87.0	98.4	107.4
Massachusetts	99.1	107.0	95.9	116.3	96.5	109.9	105.0	97.7	102.6	107.1	92.6	92.9	108.5
Rhode Island	98.7	98.0	101.4	113.4	92.3	92.4	114.3	103.4	100.6	97.9	95.3	88.5	114.6
Connecticut	94.0	103.0	95.9	111.7	101.7	110.5	107.3	97.8	100.0	103.6	102.4	91.8	107.1
New York	90.2	105.0	90.8	110.7	100.4	107.7	107.8	102.4	106.9	110.5	83.9	108.7	103.7
New Jersey	89.2	106.0	101.2	104.9	107.1	107.2	102.5	100.0	98.7	120.8	91.7	117.5	86.2
Pennsylvania	90.6	110.0	98.0	105.5	100.8	106.0	100.8	101.6	104.9	109.3	94.0	104.8	92.3
N. Atlantic	91.6	106.8	95.5	109.3	98.9	108.9	104.6	101.2	104.8	107.9	90.3	104.1	100.3
Delaware	95.5	112.0	97.1	109.3	99.1	100.6	104.1	91.1	90.8	111.2	87.8	107.4	104.5
Maryland	89.5	108.0	93.3	112.9	99.6	106.4	106.0	99.9	98.2	112.0	90.2	104.6	102.3
Virginia	90.6	101.0	106.6	89.9	114.5	112.7	108.2	105.1	101.8	109.2	85.6	105.4	104.1
West Virginia	77.8	123.0	93.3	94.7	113.0	110.4	103.1	99.1	102.4	109.1	91.0	101.4	103.9
North Carolina	100.4	102.0	103.5	108.1	103.3	95.0	97.3	105.9	92.3	106.6	85.0	93.4	107.9
South Carolina	103.4	102.0	105.9	103.7	93.3	83.3	102.0	98.3	94.3	99.1	74.0	68.4	89.9
Georgia	107.9	98.0	103.9	111.2	92.0	91.5	97.2	96.8	85.1	87.9	72.3	66.8	89.7
Florida	101.8	106	111.1	112.0	100.5	95.4	94.5	98.8	92.3	96.5	90.5	110.2	100.6
S. Atlantic	99.6	103.6	103.5	105.1	99.6	102.9	100.7	100.3	93.1	100.4	80.8	84.4	99.6

TABLE 667.—*Crops: Index numbers of all crop yields, 1911–1923*—Continued.

State and division.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Ohio	94.6	105.0	97.2	100.1	111.9	89.2	111.1	101.9	104.7	106.7	88.7	97.3	104.7
Indiana	94.9	102.0	95.4	92.7	113.0	92.4	108.8	100.8	96.2	105.7	88.3	97.7	103.2
Illinois	94.7	110.0	80.3	85.3	113.5	95.7	120.0	111.0	96.6	101.2	94.1	102.5	107.1
Michigan	97.7	101.0	93.6	111.4	99.6	93.3	97.8	90.0	99.8	109.0	85.3	107.4	104.5
Wisconsin	96.6	108.0	109.7	106.3	103.4	103.8	103.4	113.5	107.3	112.3	89.4	110.5	92.6
E. N. Central	95.5	106.1	92.8	96.9	110.6	94.7	110.0	106.0	100.6	106.2	89.8	102.4	103.3
Minnesota	82.3	123.0	114.6	94.7	116.1	79.2	110.8	123.2	88.6	96.9	84.5	98.4	97.3
Iowa	82.3	128.0	102.4	104.9	103.3	107.2	116.8	103.8	107.4	112.6	98.8	110.2	100.5
Missouri	88.1	105.0	71.1	84.6	108.8	78.8	124.0	84.4	105.7	114.2	101.8	101.3	107.8
North Dakota	81.4	142.0	98.2	99.2	137.3	72.5	64.9	108.1	69.2	91.1	82.3	127.0	81.3
South Dakota	48.1	115.0	81.8	93.6	137.2	88.8	115.1	138.9	88.7	104.0	87.0	103.1	101.9
Nebraska	74.5	92.0	78.0	102.9	125.4	113.9	102.7	78.0	114.5	137.3	104.4	89.1	109.4
Kansas	71.5	117.0	61.4	124.2	134.9	81.7	92.2	82.2	110.8	129.1	102.0	100.8	87.7
W. N. Central	78.1	117.3	88.6	101.9	118.2	90.6	104.6	101.1	100.2	113.0	95.6	103.3	99.1
Kentucky	96.0	104.0	82.9	101.9	108.0	102.5	108.9	100.5	95.0	106.2	93.2	100.4	100.5
Tennessee	97.9	102.0	88.1	98.5	103.7	101.0	105.1	95.5	95.6	104.9	96.6	92.3	86.1
Alabama	105.8	106.0	101.0	110.1	91.8	64.3	90.2	101.1	82.1	86.9	82.0	92.7	76.7
Mississippi	97.8	98.0	98.6	103.1	98.3	67.4	103.0	102.2	92.5	89.8	86.4	95.5	66.1
Louisiana	102.6	100.0	101.5	103.7	96.2	102.1	94.6	85.3	87.4	97.2	94.6	96.7	84.8
Texas	83.4	122.0	103.2	103.7	102.6	95.5	73.9	65.4	124.2	113.5	92.4	86.4	97.1
Oklahoma	64.4	99.0	61.7	105.6	122.2	79.2	86.8	66.3	138.7	139.6	104.9	76.7	74.5
Arkansas	101.4	99.0	94.5	96.9	103.5	92.4	110.0	75.6	98.0	106.7	91.7	92.2	66.4
S. Central	91.2	105.8	92.3	103.1	103.8	88.0	93.0	83.6	105.5	107.4	92.9	89.9	82.8
Montana	105.8	98.0	93.9	90.2	106.7	85.9	55.3	68.9	40.4	82.6	84.5	100.1	103.9
Wyoming	85.3	103.0	91.9	97.9	99.4	86.9	88.3	104.7	65.1	113.2	86.5	94.3	94.4
Colorado	77.6	98.0	88.8	106.6	99.2	91.9	102.9	96.3	90.1	105.1	98.7	87.2	93.5
New Mexico	104.3	91.0	83.6	110.0	100.3	86.0	84.6	96.2	104.3	107.2	95.6	59.4	87.7
Arizona	86.0	112.0	116.0	97.9	94.0	109.0	99.5	94.0	112.0	96.8	110.5	93.9	109.8
Utah	93.0	105.0	92.2	100.2	94.5	88.4	108.7	94.0	78.2	102.7	107.7	99.2	105.9
Nevada	125.6	126.0	104.7	118.6	97.4	94.0	106.2	92.2	88.1	90.5	99.7	108.2	103.5
Idaho	106.5	108.0	101.6	95.4	97.9	88.8	90.7	89.0	81.5	98.2	98.2	94.7	105.3
Washington	102.3	105.0	101.0	101.4	104.3	105.0	83.1	74.8	94.4	92.5	108.0	79.3	118.4
Oregon	96.4	117.0	104.5	95.0	100.4	107.0	82.4	80.2	98.0	102.9	103.9	87.5	111.6
California	102.1	106.0	88.4	109.9	103.8	101.7	103.2	88.5	99.4	96.3	95.2	105.4	107.7
Western	99.4	102.9	95.1	102.6	102.1	97.7	91.2	85.3	88.5	96.9	98.3	95.5	106.8
United States	90.6	107.7	93.3	102.3	108.0	95.1	102.0	97.6	99.8	106.9	91.7	96.7	96.1

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10-year moving average yield, weighted by States, according to crop values in 1919.

TABLE 668.—*Crops: Average weight in pounds per measured bushel of wheat, oats, and barley, United States, 1902–1923.*

Calendar year.	Weight per measured bushel.[1]			Calendar year.	Weight per measured bushel.[1]		
	Wheat.	Oats.	Barley.		Wheat.	Oats.	Barley.
	Pounds.	*Pounds.*	*Pounds.*		*Pounds.*	*Pounds.*	*Pounds.*
1902	57.3	31.0	----------	1913	58.7	32.1	46.5
1903	57.4	29.7	----------	1914	58.0	31.5	46.2
1904	55.5	31.5	----------	1915	57.9	33.0	47.4
1905	57.5	32.7	----------	1916	57.1	31.2	45.2
1906	58.3	32.0	----------	1917	58.5	33.4	46.6
1907	58.2	29.4	----------	1918	58.8	33.2	46.9
1908	58.3	29.8	----------	1919	56.3	31.1	45.2
1909	57.9	32.7	----------	1920	57.4	33.1	46.0
1910	58.5	32.7	46.9	1921	56.6	28.3	44.4
1911	57.8	31.1	46.0	1922	57.7	32.0	46.2
1912	58.3	33.0	46.8	1923	57.4	32.1	45.3

Division of Crop and Livestock Estimates. As reported by crop reporters on Nov. 1.

[1] Standard weights: Wheat, 60 lbs.; oats, 32 lbs.; barley, 48 lbs.

TABLE 669.—*Crops: Value per acre of 10 crops combined, 1866–1923.*

Calendar year.	Value per acre.	Calendar year.	Value per acre.	Calendar year.	Value per acre.	Calendar year.	Value per acre.
1866	$14.17	1881	$13.10	1896	$7.94	1911	$15.36
1867	15.09	1882	12.93	1897	9.07	1912	16.09
1868	14.17	1883	10.93	1898	9.00	1913	16.49
1869	14.67	1884	9.95	1899	9.13	1914	16.44
1870	15.40	1885	9.72	1900	10.31	1915	17.18
1871	15.74	1886	9.41	1901	11.43	1916	22.58
1872	14.86	1887	10.14	1902	12.07	1917	33.27
1873	14.19	1888	10.30	1903	12.62	1918	33.73
1874	13.25	1889	8.99	1904	13.26	1919	35.74
1875	12.20	1890	11.03	1905	13.28	1920	23.26
1876	10.80	1891	11.76	1906	13.46	1921	14.45
1877	12.00	1892	10.10	1907	14.74	1922	19.23
1878	10.37	1893	9.50	1908	15.32	1923	21.55
1879	13.26	1894	9.06	1909	16.00		
1880	13.01	1895	8.12	1910	15.53		

Division of Crop and Livestock Estimates. Corn, wheat, oats, barley, rye, buckwheat, potatoes, all hay, tobacco, and cotton, which comprise nearly 90 per cent of the area in all field crops, the average value of which closely approximates the value per acre of the aggregate of all crops.

TABLE 670.—*Crops: Value of 22 crops and of all crops, with rank.*

State.	Value all crops, 1919 census.[1]	Ratio value 22 crops to all crops in census 1919.	Value 22 crops.			Value all crops.			Rank 1923	
			1919 census.	1922	1923	1917–1921 average.	1922	1923	22 crops.	All crops.
	1,000 dols.	*Per ct.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*		
Me.	100,152	92	91,982	36,475	50,146	68,218	39,647	54,507	35	38
N. H.	23,510	79	18,479	15,504	15,751	23,175	19,625	19,938	45	45
Vt.	48,000	77	36,835	32,177	32,660	47,503	41,788	42,416	40	40
Mass.	53,701	68	36,601	29,534	37,989	56,059	43,432	55,966	39	37
R. I.	5,340	69	3,680	2,661	3,099	5,839	3,857	4,491	48	48
Ct.	44,473	81	36,006	31,816	40,496	49,949	39,279	49,993	37	39
N. Y.	417,047	77	321,598	213,929	243,332	393,342	277,830	316,016	10	8
N. J.	87,484	70	61,273	38,989	39,523	79,809	55,627	56,461	38	36
Pa.	409,969	86	350,991	210,290	221,965	362,808	244,523	258,099	15	16
Del.	23,059	72	16,516	11,127	12,297	22,290	15,454	17,079	46	46
Md.	110,166	80	88,066	50,512	54,048	96,002	63,140	67,560	34	35
Va.	292,824	85	247,463	146,988	158,170	246,315	172,927	186,062	25	25
W. Va.	96,537	81	78,143	53,747	61,984	100,398	66,354	76,523	33	33
N. C.	503,229	87	438,892	263,297	361,891	404,926	325,629	415,737	4	5
S. C.	437,122	82	360,025	128,149	214,605	327,851	156,279	261,713	16	14
Ga.	540,614	80	430,270	167,577	189,112	440,296	209,471	236,390	19	18
Fla.	80,257	62	49,521	48,189	43,267	80,044	77,724	69,785	36	34
Ohio	607,038	87	526,943	245,078	283,631	453,534	281,699	326,013	6	6
Ind.	497,230	90	449,079	203,357	235,278	394,281	225,952	261,420	12	15
Ill.	864,738	92	797,893	385,337	422,748	675,957	418,845	459,509	3	3
Mich.	404,015	82	329,651	176,217	196,827	316,498	214,899	242,472	18	17
Wis.	445,348	81	360,404	216,096	222,402	382,716	266,785	274,570	14	12
Minn.	506,020	89	450,327	252,241	269,217	424,682	283,417	302,491	8	9
Iowa	890,391	92	820,126	423,815	437,846	640,307	460,668	475,920	2	2
Mo.	559,048	89	496,261	248,377	265,776	420,456	279,075	321,097	5	7
N. Dak.	301,783	92	278,315	214,825	141,316	270,863	223,505	153,604	26	27
S. Dak.	311,007	93	288,376	165,507	178,993	296,806	181,190	192,466	21	24
Nebr.	519,730	95	491,338	243,562	271,532	390,620	256,381	285,328	7	10
Kans.	588,923	91	536,408	262,771	259,330	443,857	288,759	284,978	9	11
Ky.	347,339	89	310,224	195,204	201,220	312,890	219,330	226,090	17	20
Tenn.	318,285	88	263,797	179,287	172,527	258,602	215,948	207,864	22	21
Ala.	304,349	81	246,271	184,708	184,282	258,952	228,035	227,447	20	19
Miss.	336,207	83	278,539	184,213	160,781	264,230	221,943	193,712	24	23
La.	206,182	71	147,290	97,161	114,410	195,256	136,846	161,141	28	26
Tex.	1,071,542	83	885,955	579,815	883,763	793,117	698,372	1,064,775	1	1
Okla.	550,085	87	479,314	206,348	230,528	353,602	239,490	264,975	13	13
Ark.	340,813	83	283,175	189,120	172,420	274,380	227,655	207,735	23	22
Mont.	99,975	86	80,068	87,227	85,774	98,378	101,427	108,226	30	30
Wyo.	30,271	88	26,522	21,631	25,960	42,095	24,561	30,696	42	42
Colo.	181,065	76	137,660	79,499	100,439	154,843	104,604	132,143	29	29

[1] Does not include nursery or greenhouse products, or forest products of the farm.

TABLE 670.—*Crops: Value of 22 crops and of all crops, with rank*—Contd.

State.	Value all crops, 1919 census.	Ratio value 22 crops to all crops in census 1919.	Value 22 crops.			Value all crops.			Rank 1923	
			1919 census.	1922	1923	1917–1921 average.	1922	1923	22 crops.	All crops.
	1,000 dols.	*Per ct.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*		
N. Mex.	40, 620	77	31, 093	14. 614	20, 097	40, 560	18, 979	26, 100	44	44
Ariz.	42, 481	84	35, 478	23, 380	30, 525	35, 304	27, 833	36, 339	41	42
Utah	58, 067	70	40, 901	23, 110	25, 744	48, 869	33, 014	36, 777	43	41
Nev.	13, 980	96	13, 439	10, 211	8, 953	14, 409	10, 636	9, 326	47	47
Idaho	126, 495	88	111, 940	64, 543	71, 551	106, 209	73, 344	81, 308	31	32
Wash.	227, 212	82	185, 667	105, 063	122, 886	188, 480	128, 126	149, 861	27	28
Oreg.	131, 885	75	99, 095	65, 692	70, 880	118, 644	87, 589	94, 507	32	31
Calif.	589, 757	54	315, 091	219, 821	241, 916	498, 917	404, 076	447, 993	11	4
U. S.	14, 755, 365	84. 3	12, 442, 977	7, 073, 691	7, 915, 627	11, 972, 928	8, 445, 979	9, 470, 976		

Division of Crop and Livestock Estimates. Estimated total value of 22 crops—corn, wheat, oats, barley, rye, buckwheat, flaxseed, rice, potatoes, sweet potatoes, all hay, tobacco, lint cotton, beans, broom corn, grain sorghums, hops, oranges, cloverseed, peanuts, cranberries, and apples—in the United States, by States, in 1919 (census), 1922, and 1923; the value of all crops in 1919 (census); and the value of all crops in 1922 and 1923, based upon ratio of the 22 crops to all crops in census year. The slight differences in the total value of crops in the United States between Tables 670 and 672 are due to different methods of estimating. In Table 670, where each State is shown separately, a more detailed method is used than is practicable in Table 672.

TABLE 671.—*Farm production: Estimated value, principal products and groups of products, calendar years, 1919–1923.*

Products.	1919	1920	1921	1922	1923, preliminary.
CROPS.[1]	*Million dollars.*	*Million dollars.*	*Million dollars.*	*Million dollars.*	*Million dollars.*
Cereals:					
Barley	178	135	65	96	107
Corn	3, 781	2, 150	1, 297	1, 912	2, 222
Grain sorghums	167	128	45	79	99
Oats	834	688	326	479	539
Rice	112	62	36	39	37
Rye	101	77	43	71	41
Wheat	2, 080	1, 197	755	874	726
Other	40	28	18	21	22
Total cereals	7, 293	4, 465	2, 585	3, 571	3, 793
Cotton lint and seed	2, 371	1, 204	777	1, 306	1, 769
Flax fiber and seed	33	20	12	22	37
Fruits and fruit products:					
Apples	261	257	166	200	201
Grapes, raisins, and juice	103	105	62	143	140
Oranges	61	66	49	64	65
Peaches	100	96	52	75	80
Pears	28	28	19	22	21
Strawberries	36	38	42	42	44
Other	166	154	117	146	130
Total fruits and fruit products	755	744	507	692	681
Hay and forage	2, 161	1, 867	1, 173	1, 399	1, 480
Legume seeds:					
Beans, dry edible	60	28	26	50	60
Peanuts	73	44	33	30	43
Other	64	51	50	85	72
Total legume seeds	197	123	109	165	175
Seeds for planting (clover, etc.)	104	57	40	48	38
Sugar and sirup crops (including no sugar except maple):					
Maple sirup and sugar	10	12	6	8	8
Sorghum sirup	44	53	29	26	28
Sugar beets for sugar	75	100	50	41	50
Sugar cane and sirup	73	70	56	53	56
Total sugar crops	202	235	141	128	142

[1] Based on farm price Dec. 1, except cotton, 1919 to 1922; cotton weighted, year beginning Aug. 1.

TABLE 671.—*Farm production: Estimated value, principal products and groups of products, calendar years 1919–1923*—Continued.

Products.	1919	1920	1921	1922	1923, preliminary
CROPS[1]—continued.	*Million dollars.*	*Million dollars.*	*Million dollars.*	*Million dollars.*	*Million dollars.*
Tobacco	570	336	213	289	299
Vegetables:					
Potatoes	515	462	398	264	340
Sweet potatoes	131	118	87	84	95
Truck crops (commercial)	192	209	185	209	246
Farm gardens	345	375	311	337	408
Total vegetables	1,183	1,164	981	894	1,089
Farm forest products	394	562	271	305	318
Other crops	160	132	125	126	133
Total crops	15,423	10,909	6,934	8,945	9,963
ANIMAL PRODUCTS, INCLUDING ANIMALS RAISED.					
Animals raised:					
Cattle	1,578	1,194	786	975	924
Horses	146	152	156	152	141
Mules	60	46	32	42	36
Sheep	135	96	68	124	143
Swine	2,230	1,575	1,091	1,273	1,145
Other	9	8	4	8	8
Total animals raised	4,158	3,070	2,137	2,574	2,397
Bee products	15	17	10	11	11
Dairy products:					
Milk sold[2]	1,041	1,033	837	722	911
Milk consumed on farms[2]	818	878	730	635	785
Total whole milk at sale price[2]	1,859	1,911	1,567	1,357	1,696
Butter made	345	366	241	220	246
Cheese made	2	2	2	1	1
Cream sold[3]	109	117	81	76	98
Butterfat sold	398	404	364	324	379
Buttermilk	14	12	5	5	6
Whey	(4)	(4)	(4)	(4)	(4)
Skim milk	233	206	92	102	140
Total dairy products	2,960	3,018	2,352	2,085	2,566
Poultry products:					
Eggs produced	683	765	542	512	602
Poultry raised	417	456	390	406	445
Total poultry products	1,100	1,221	932	918	1,047
Wool	128	90	36	69	87
Other animal products	3	3	1	2	3
Total animal products	8,364	7,419	5,468	5,659	6,111

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1, except cotton, 1919 to 1922; cotton weighted, year beginning Aug. 1.
[2] Includes milk equivalent of cream for household use
[3] For cream powder and ice cream.
[4] Less than $500,000.

TABLE 672.—*Farm production: Value of farm products, based on prices at the farm, 1897–1923.*

Calendar year.	Crops.	Animal products.	Total (estimated) value, excluding crops fed to livestock.[1]
1897	$2,519,000,000	$1,442,000,000	$2,904,000,000
1898	2,760,000,000	1,579,000,000	3,161,000,000
1899 (census)	3,020,000,000	1,718,000,000	3,355,000,000
1900	3,192,000,000	1,818,000,000	3,549,000,000
1901	3,385,000,000	1,917,000,000	3,643,000,000
1902	3,578,000,000	2,016,000,000	3,807,000,000
1903	3,772,000,000	2,116,000,000	4,136,000,000
1904	3,962,000,000	2,140,000,000	4,262,000,000
1905	4,013,000,000	2,261,000,000	4,337,000,000
1906	4,263,000,000	2,501,000,000	4,784,000,000

[1] Estimates of the values of crops fed to livestock have been made by multiplying the value of the following crops by the percentages given: Barley, 75; corn, 85; grain sorghums, 90; oats, 80; rye, 30; wheat, 6; hay, 85; forage, 100; potatoes, 10; and sweet potatoes, 15.

TABLE 672.—*Farm production: Value of farm products, based on prices at the farm, 1897–1923*—Continued.

Calendar year.	Crops.	Animal products.	Total (estimated) value, excluding crops fed to livestock.[1]
1907	$4,761,000,000	$2,727,000,000	$5,195,000,000
1908	5,098,000,000	2,792,000,000	5,464,000,000
1909 (census)	5,487,000,000	3,071,000,000	6,053,000,000
1910	5,486,000,000	3,551,000,000	6,607,000,000
1911	5,562,000,000	3,257,000,000	6,233,000,000
1912	5,842,000,000	3,501,000,000	6,712,000,000
1913	6,133,000,000	3,717,000,000	7,119,000,000
1914	6,112,000,000	3,783,000,000	7,081,000,000
1915	6,907,000,000	3,868,000,000	7,767,000,000
1916	9,054,000,000	4,352,000,000	9,656,000,000
1917	13,479,000,000	5,852,000,000	13,380,000,000
1918	14,331,000,000	6,149,000,000	16,728,000,000
1919	15,423,000,000	8,364,000,000	17,810,000,000
1920	10,909,000,000	7,419,000,000	14,147,000,000
1921	6,934,000,000	5,468,000,000	9,922,000,000
1922	8,945,000,000	5,659,000,000	11,244,000,000
1923	9,953,000,000	6,111,000,000	12,204,000,000

Division of Crop and Livestock Estimates.

[1] Estimates of the values of crops fed to livestock have been made by multiplying the value of the following crops by the percentages given: Barley, 75; corn, 85: grain sorghums, 90; oats, 80; rye, 20; wheat, 6; hay, 85; forage, 100; potatoes, 10; and sweet potatoes, 15.

REFRIGERATION.

TABLE 673.—*Total refrigerated space: Meat-packing establishments and cold storages reporting to the Bureau of Agricultural Economics, October 1, 1923.*

State.	Concerns.	Cubic feet of space held at temperatures of—				Total space.
		10° F. and below.	11° to 29° F., inclusive.	30° to 44°.	45° F. and above.	
Alabama	4	11,094	100,953	1,214,548	9,600	1,336,195
Alaska	5	66,666	616,339	12,360	2,000	697,365
Arizona	5	15,360	27,840	442,096		485,296
Arkansas	8	15,000	733	589,693	15,521	620,946
California	68	1,056,867	1,893,665	16,717,331	196,774	19,864,637
Colorado	17	345,175	984,282	4,940,345	588,109	6,857,911
Connecticut	6	248,468	61,350	1,338,440	131,545	1,779,803
District of Columbia	3	20,000	258,000	207,397	1,280,000	1,765,397
Florida	6	20,250	66,650	416,350	35,400	538,650
Georgia	18	20,532	147,048	1,975,347	11,040	2,153,967
Idaho	12	39,051	267,697	345,924	25,869	678,541
Illinois	99	14,042,221	12,695,390	97,478,037	8,976,560	133,192,208
Indiana	47	361,457	1,266,146	12,343,335	945,664	14,916,602
Iowa	42	1,258,563	2,461,519	16,353,517	2,062,291	22,135,890
Kansas	33	2,155,537	4,794,712	31,129,351	5,368,096	43,447,696
Kentucky	17	358,021	286,978	4,019,622	104,050	4,768,671
Louisiana	6	136,000	77,000	1,752,337	6,000	1,971,337
Maine	8	255,980	4,580	1,047,887	1,800	1,310,247
Maryland	23	543,271	288,589	4,758,897	79,235	5,669,992
Massachusetts	44	7,119,030	1,705,328	13,960,589	1,138,827	23,823,774
Michigan	30	1,007,985	786,531	6,237,069	172,032	8,203,617
Minnesota	26	1,994,746	2,866,540	12,974,996	1,596,836	19,433,118
Missouri	54	2,594,020	2,248,567	31,033,122	890,077	36,765,786
Montana	9	51,758	50,872	353,904	8,080	459,614
Nebraska	21	2,677,034	949,344	17,549,442	1,407,485	22,583,305
New Hampshire	4	31,280	116,646	153,337		301,263
New Jersey	34	2,682,063	1,576,176	7,410,489	2,330,056	13,998,784
New York	180	9,460,139	5,831,366	49,860,648	2,737,147	67,889,300
North Carolina	7	512	15,360	393,074	20,000	428,946
North Dakota	3		42,288	187,922		230,210
Ohio	96	1,883,556	1,993,585	15,785,379	527,323	20,189,843
Oklahoma	14	259,990	867,287	6,966,264	905,170	8,998,711
Oregon	30	270,758	863,945	2,638,826	99,340	3,872,869
Pennsylvania	113	2,269,220	2,294,396	18,710,885	588,970	23,863,421
Rhode Island	4	329,788	500,952	708,564		1,534,304
South Dakota	7	79,512	246,380	1,507,346	204,000	2,037,238
Tennessee	17	433,954	289,440	3,713,436		4,386,830
Texas	49	580,769	1,320,968	9,710,456	1,387,604	13,499,797
Utah	7	116,200	125,331	983,455	118,800	1,343,786
Virginia	30	165,880	726,179	10,125,274	1,229,815	12,247,148
Washington	39	1,408,016	4,080,299	10,967,649	618,344	17,574,308
West Virginia	16		50,752	3,453,008	94,272	3,598,032
Wisconsin	62	712,980	768,844	10,625,681	1,103,580	13,211,085
Wyoming	3		384	50,979	24,750	76,113
All other states	8	40,924	91,049	522,519	7,589	662,081
Total	1,354	57,139,627	57,758,280	433,462,076	37,044,651	585,404,634

Division of Statistical and Historical Research.

VALUE OF PLOW LANDS.

TABLE 674.—*Plow lands: Value per acre, by States, 1916–1924.*

State.	Average of poor plow lands.				Average of good plow lands.				Average of all plow lands.			
	1916	1917	1918	1919	1916	1917	1918	1919	1916	1917	1918	1919
Maine	$21	$22	$24	$24	$45	$47	$48	$50	$32	$34	$35	$37
New Hampshire	24	24	21	23	50	50	52	54	37	37	39	39
Vermont	26	26	28	30	57	60	64	64	42	42	44	44
Massachusetts	34	36	41	41	91	93	92	92	62	64	68	68
Rhode Island	41	42	46	47	80	85	90	92	60	62	70	73
Connecticut	34	36	37	37	70	72	75	80	49	53	52	55
New York	34	34	33	38	68	74	75	80	53	55	58	60
New Jersey	43	46	58	50	89	92	108	103	65	69	78	76
Pennsylvania	32	36	37	38	66	73	79	79	50	57	58	60
Delaware	33	33	35	36	68	75	68	70	50	55	59	55
Maryland	28	30	33	39	57	62	61	66	46	48	47	53
Virginia	22	24	29	31	46	50	61	62	34	36	43	47
West Virginia	22	23	28	29	49	54	64	64	36	38	43	44
North Carolina	21	24	29	31	42	49	58	67	31	35	42	50
South Carolina	20	21	23	27	42	43	45	56	31	33	36	45
Georgia	16	18	20	24	32	36	40	49	24	28	28	38
Florida	19	20	21	21	35	37	42	48	26	28	32	33
Ohio	52	55	61	63	95	100	107	113	75	80	86	91
Indiana	57	60	67	68	106	110	120	126	84	87	96	100
Illinois	80	85	94	100	139	148	160	170	115	120	132	144
Michigan	32	35	38	40	64	72	75	76	51	55	60	61
Wisconsin	51	54	56	60	92	100	100	110	74	80	82	89
Minnesota	45	50	54	59	73	81	85	88	61	68	75	78
Iowa	101	104	119	129	156	163	180	196	135	140	154	169
Missouri	42	42	47	51	74	76	83	91	59	60	66	72
North Dakota	22	24	26	28	36	39	41	43	30	33	35	37
South Dakota	40	41	41	50	61	62	63	77	53	54	56	67
Nebraska	49	51	60	67	85	90	100	115	72	74	80	95
Kansas	36	37	42	44	62	69	74	77	51	53	58	61
Kentucky	22	27	31	37	47	56	65	80	35	41	50	61
Tennessee	22	26	30	31	53	60	67	75	37	41	48	53
Alabama	12	13	15	17	21	24	30	33	16	17	21	24
Mississippi	12	13	15	16	26	28	31	34	18	20	23	26
Louisiana	15	17	26	25	31	36	45	44	24	25	33	33
Texas	22	24	30	27	45	49	57	58	34	38	45	46
Oklahoma	17	19	23	24	36	42	48	51	27	30	35	38
Arkansas	14	17	20	22	31	39	45	50	22	27	31	38
Montana	17	19	22	21	40	41	45	45	29	32	35	34
Wyoming	18	20	25	26	34	41	49	53	27	30	41	43
Colorado	27	32	35	36	68	75	74	80	50	55	55	60
New Mexico	20	24	25	30	42	48	60	60	31	36	42	45
Arizona	50	55	52	60	100	108	116	125	80	85	98	100
Utah	38	45	48	55	80	90	113	125	60	70	86	95
Nevada	32	38	42	50	90	90	110	110	60	60	80	85
Idaho	34	37	43	50	66	77	89	98	53	58	70	76
Washington	45	50	56	60	110	110	122	121	75	80	94	95
Oregon	36	44	53	53	80	98	111	108	60	70	84	81
California	50	55	66	69	135	150	168	165	95	110	120	121
United States	40	43	48	51	73	78	85	92	58	62	68	74

TABLE 674.—*Plow lands: Value per acre, by States, 1916–1924*—Continued.

State.	Average of poor plow lands.					Average of good plow lands.					Average of all plow lands.				
	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924
Maine	$30	$25	$22	$22	$22	$56	$50	$47	$48	$50	$42	$36	$35	$36	$37
New Hampshire	24	24	25	24	23	64	63	64	58	59	42	41	41	40	40
Vermont	30	29	27	24	24	69	67	63	56	55	48	47	45	40	40
Massachusetts	40	40	39	39	39	103	98	105	106	106	72	69	69	70	69
Rhode Island	50	50	50	51	52	105	105	105	106	110	85	85	86	87	88
Connecticut	35	34	32	32	33	100	90	90	88	88	60	58	58	57	58
New York	39	40	38	35	33	84	84	83	80	75	64	65	62	59	54
New Jersey	50	55	48	49	47	104	125	109	109	105	80	92	84	83	82
Pennsylvania	40	39	33	35	32	86	81	73	73	68	66	62	54	54	53
Delaware	44	38	31	28	30	86	72	67	70	68	66	55	50	51	50
Maryland	46	31	31	32	33	82	70	67	67	70	60	51	49	50	52
Virginia	34	32	27	31	32	73	70	60	64	65	53	50	43	47	48
West Virginia	32	31	27	28	27	75	70	62	67	66	51	48	42	45	44
North Carolina	42	36	33	35	35	87	76	67	70	75	68	55	49	52	54
South Carolina	41	32	23	21	22	82	68	46	45	48	61	50	35	35	38
Georgia	30	23	18	17	16	63	50	38	36	34	46	36	28	26	24
Florida	23	25	21	20	20	53	55	56	43	46	36	40	37	31	33
Ohio	69	60	52	52	51	132	110	100	100	96	105	88	78	78	75
Indiana	80	71	56	54	51	150	137	108	105	101	119	109	85	82	78
Illinois	115	105	91	86	81	213	195	160	155	148	170	157	131	126	120
Michigan	41	41	39	36	35	80	83	77	74	73	64	65	60	57	56
Wisconsin	66	65	58	60	57	125	122	110	108	105	100	98	87	86	82
Minnesota	73	74	67	59	55	120	121	102	96	89	100	101	87	80	75
Iowa	157	145	119	115	107	257	238	193	181	169	219	200	163	153	143
Missouri	60	58	44	45	44	110	106	84	85	83	87	83	65	66	65
North Dakota	31	30	25	24	22	49	49	44	40	37	43	42	37	33	31
South Dakota	67	66	52	43	41	108	102	80	73	64	90	85	72	58	54
Nebraska	85	80	72	65	64	150	140	123	116	113	125	115	101	96	94
Kansas	50	50	43	41	38	90	90	77	74	69	70	70	60	58	54
Kentucky	42	33	28	27	26	95	75	67	66	63	70	53	47	46	43
Tennessee	40	35	28	30	30	90	81	68	70	70	60	55	47	50	50
Alabama	20	17	14	16	16	43	38	32	34	35	30	26	23	26	26
Mississippi	23	16	16	17	17	49	36	34	36	36	35	26	25	26	26
Louisiana	34	24	21	24	25	65	50	42	45	46	50	38	31	34	35
Texas	36	33	29	28	29	72	70	60	57	59	56	52	47	44	45
Oklahoma	30	29	26	24	23	63	63	58	52	52	47	46	41	37	37
Arkansas	26	24	20	21	20	65	54	46	47	45	45	38	33	34	33
Montana	21	19	15	14	13	48	41	35	31	30	36	30	23	22	21
Wyoming	34	25	23	21	20	70	60	54	48	40	53	44	37	35	32
Colorado	40	35	35	30	29	88	86	84	75	72	66	67	61	56	52
New Mexico	30	30	23	21	23	60	60	57	53	56	45	45	41	37	39
Arizona	90	75	70	70	75	180	140	130	132	140	130	120	115	116	120
Utah	60	50	42	42	40	135	140	125	122	119	103	100	90	88	86
Nevada	46	45	40	30	42	110	90	80	80	85	80	75	70	65	73
Idaho	60	58	50	46	42	135	128	110	93	88	105	99	85	76	68
Washington	68	63	52	50	49	150	140	120	110	108	115	105	90	88	86
Oregon	60	60	55	52	50	130	135	110	106	104	100	108	90	84	82
California	70	75	69	53	51	175	200	193	166	166	130	135	128	113	112
United States	61	57	47	45	43	113	106	89	85	82	90	84	70	67	64

Division of Crop and Livestock Estimates. From reports of crop reporters on Mar. 1 on average values in their localities.

FARM LABOR.

TABLE 675.—*Wages: Male farm labor, by classes, United States, 1866–1923.*

Year.	By the month.		Day labor at harvest.		Day labor not harvest.	
	With board.	Without board.	With board.	Without board.	With board.	Without board.
1866	$10.09	$15.50	$1.04	$1.34	$0.64	$0.90
1869	9.97	15.50	1.06	1.35	.62	.87
1875	11.16	17.10	1.18	1.49	.68	.94
1879	10.86	16.79	1.04	1.35	.61	.84
1880	11.70	17.53	1.12	1.44	.64	.89
1881	12.32	18.52	1.16	1.49	.67	.92
1882	12.88	19.11	1.20	1.54	.70	.97
1885	13.08	19.22	1.17	1.49	.71	.96
1888	13.29	19.67	1.09	1.40	.72	.98
1890	13.29	19.45	1.08	1.38	.72	.97
1892	13.48	20.02	1.09	1.39	.73	.98
1893	13.85	19.97	1.07	1.30	.72	.92
1894	12.70	18.57	.97	1.18	.65	.84
1895	12.75	18.74	.96	1.19	.65	.85
1898	13.29	19.16	1.04	1.29	.71	.94
1899	13.90	19.97	1.10	1.35	.75	.99
1902	15.51	22.12	1.23	1.51	.83	1.09
1906	18.73	26.19	1.45	1.76	1.03	1.32
1909	$20.01	$27.43	$1.43	$1.71	$1.03	$1.29
1910	19.21	27.50	1.45	1.82	1.06	1.38
1911	20.18	28.77	1.49	1.85	1.09	1.42
1912	20.81	29.58	1.54	1.87	1.14	1.47
1913	21.38	30.31	1.57	1.94	1.16	1.50
Av. 1909–1913	20.32	28.72	1.50	1.84	1.10	1.41
1914	21.05	29.88	1.55	1.91	1.13	1.45
1915	21.26	30.15	1.56	1.92	1.13	1.47
1916	23.25	32.83	1.69	2.07	1.26	1.62
1917	28.87	40.43	2.08	2.54	1.56	2.02
1918	34.92	48.80	2.65	3.22	2.07	2.63
1919	39.82	56.29	3.15	3.83	2.45	3.12
1920	46.89	64.95	3.60	4.36	2.86	3.59
Av. 1914–1920	30.87	43.33	2.33	2.84	1.78	.27
1921	30.14	43.32	2.24	2.79	1.68	2.18
1922	29.17	41.79	2.20	2.72	1.65	2.15
1923	33.18	46.91	2.45	3.03	1.93	2.47

Division of Crop and Livestock Estimates. From reports of crop reporters on December 1, for average wages for the year in their localities.

TABLE 676.—*Wages: Male farm labor, by classes and States, 1922 and 1923.*

State and division.	Per month.				Per day at harvest.				Per day other than harvest.			
	With board.		Without board.		With board.		Without board.		With board.		Without board.	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
Maine	$38.00	$41.00	$53.50	$61.00	$2.45	$2.90	$3.07	$3.50	$2.06	$2.50	$2.70	$3.10
New Hampshire	38.60	46.50	60.00	69.00	2.46	3.00	3.20	3.90	2.11	2.70	2.84	3.60
Vermont	35.00	40.60	52.00	60.30	2.35	2.90	3.00	3.60	1.96	2.55	2.58	3.20
Massachusetts	41.00	50.00	68.00	80.00	2.56	3.20	3.45	4.15	2.31	2.95	3.18	3.90
Rhode Island	40.00	50.00	65.00	80.00	2.75	3.00	3.60	4.00	2.37	2.65	3.20	3.65
Connecticut	40.00	52.00	67.00	75.00	2.50	3.10	3.40	4.10	2.05	2.80	2.95	3.75
New York	39.70	45.50	56.50	64.00	3.00	3.55	3.65	4.30	2.46	3.00	3.15	3.70
New Jersey	40.00	44.50	62.00	67.00	3.05	3.40	3.80	4.40	2.25	2.55	3.00	3.55
Pennsylvania	33.00	38.00	50.90	55.50	2.50	2.90	3.20	3.60	2.10	2.48	2.70	3.15
N. Atlantic	37.14	43.42	55.82	63.31	2.70	3.21	3.40	3.99	2.24	2.73	2.91	3.48
Delaware	37.10	32.80	40.00	51.00	2.32	2.85	2.85	3.50	1.60	2.25	2.07	2.75
Maryland	28.50	32.00	42.00	48.00	2.17	2.70	2.77	3.39	1.54	1.95	2.11	2.50
Virginia	24.80	28.00	35.50	40.00	1.90	2.10	2.32	2.60	1.31	1.61	1.76	2.08
West Virginia	33.20	35.50	47.90	50.50	2.20	2.48	2.80	3.08	1.55	1.90	2.10	2.50
North Carolina	24.00	28.00	33.00	39.00	1.55	1.95	2.25	2.45	1.35	1.55	1.75	1.95
South Carolina	16.20	20.00	23.20	27.50	1.24	1.35	1.56	1.75	.85	1.12	1.08	1.42
Georgia	15.60	17.30	23.00	24.50	1.05	1.16	1.35	1.40	.88	1.00	1.12	1.30
Florida	23.40	26.00	35.50	40.00	1.30	1.57	1.80	2.15	1.15	1.44	1.60	2.00
S. Atlantic	22.12	24.93	31.72	35.55	1.61	1.76	2.01	2.21	1.18	1.41	1.55	1.89
Ohio	32.60	36.80	46.50	50.40	2.70	3.05	3.23	3.70	2.00	2.18	2.80	2.92
Indiana	30.20	35.40	42.70	48.60	2.58	3.10	3.15	3.75	1.80	2.25	2.32	2.88
Illinois	33.90	40.20	45.00	52.50	2.75	3.38	3.80	4.00	1.95	2.40	2.48	2.96
Michigan	33.60	40.00	47.30	55.00	2.60	3.10	3.29	3.88	2.10	2.58	2.70	3.28
Wisconsin	37.00	45.00	54.00	63.00	2.65	2.96	3.32	3.70	2.20	2.45	2.90	3.15
E. N. Central	33.35	39.41	46.71	53.59	2.67	3.14	3.27	3.82	2.00	2.36	2.58	3.01

TABLE 676.—*Wages: Male farm labor, by classes and States, 1922 and 1923*—Continued.

State and division.	Per month.				Per day at harvest.				Per day other than harvest.			
	With board.		Without board.		With board.		Without board.		With board.		Without board.	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
Minnesota	$35.00	$37.00	$50.00	$55.50	$2.90	$3.27	$3.60	$4.03	$2.20	$2.55	$2.95	$3.29
Iowa	36.80	43.30	49.70	56.60	2.70	3.16	3.35	3.80	2.11	2.52	2.67	3.12
Missouri	28.70	31.00	39.50	42.50	2.25	2.50	2.73	3.05	1.46	1.62	1.90	2.10
North Dakota	38.70	40.30	55.50	58.80	3.90	3.72	4.85	4.77	2.50	2.50	3.40	3.50
South Dakota	36.40	43.20	53.00	61.70	3.05	3.50	3.75	4.20	2.25	2.65	3.10	3.45
Nebraska	34.50	40.00	48.50	54.00	3.00	3.30	3.65	4.10	2.15	2.42	2.85	3.00
Kansas	32.50	35.90	46.70	50.60	3.50	3.65	4.10	4.30	2.19	2.32	2.75	2.90
W. N. Central	33.63	37.54	47.14	52.33	2.88	3.17	3.51	3.86	2.01	2.27	2.63	2.91
Kentucky	25.90	28.10	36.30	38.60	1.95	2.16	2.46	2.67	1.23	1.51	1.63	1.97
Tennessee	22.30	24.60	30.75	35.00	1.58	1.75	1.90	2.20	1.07	1.28	1.40	1.64
Alabama	17.60	19.90	25.80	28.20	1.18	1.26	1.48	1.58	1.00	1.20	1.30	1.50
Mississippi	18.20	20.00	25.90	29.40	1.14	1.20	1.50	1.57	1.10	1.29	1.45	1.68
Louisiana	22.40	21.00	32.60	33.00	1.30	1.45	1.60	1.85	1.26	1.45	1.60	1.75
Texas	24.20	28.30	35.40	39.70	1.72	1.90	2.10	2.40	1.30	1.45	1.66	1.88
Oklahoma	26.00	27.40	37.00	38.30	2.35	2.50	2.75	2.90	1.52	1.60	1.96	2.00
Arkansas	21.35	23.00	31.60	33.90	1.56	1.64	2.00	2.06	1.15	1.30	1.52	1.66
S. Central	22.33	24.13	32.09	34.55	1.61	1.71	1.98	2.14	1.20	1.38	1.56	1.76
Montana	42.20	48.00	63.60	65.50	3.60	3.60	4.40	4.52	2.40	2.70	3.20	3.55
Wyoming	39.50	44.50	60.00	62.50	2.40	2.90	3.25	3.78	1.95	2.50	2.75	3.40
Colorado	35.00	40.00	54.00	58.30	2.52	2.80	3.27	3.50	1.90	2.20	2.60	2.90
New Mexico	31.00	32.50	46.00	48.00	1.60	2.10	2.10	2.30	1.30	1.58	1.80	2.10
Arizona	40.00	54.00	58.00	66.00	2.40	2.35	3.00	2.65	1.75	2.10	2.50	2.70
Utah	47.00	54.00	64.00	73.70	2.40	2.70	2.95	3.31	2.16	2.47	2.81	3.05
Nevada	48.00	58.00	65.00	86.00	3.00	2.90	3.85	3.80	2.40	2.45	3.40	3.55
Idaho	46.00	53.00	66.00	72.70	2.75	3.57	3.40	4.25	2.22	2.85	3.00	3.45
Washington	45.00	54.30	65.00	77.00	3.25	3.90	3.90	4.50	2.38	2.95	3.15	3.75
Oregon	43.50	52.50	63.00	70.00	2.85	3.30	3.50	4.15	2.25	2.80	2.95	3.48
California	55.00	56.00	79.00	82.00	3.20	3.25	3.90	4.10	2.53	2.80	3.40	3.70
Western	45.57	51.25	66.08	72.79	2.89	3.22	3.56	3.95	2.23	2.64	3.00	3.42
United States	29.17	33.18	41.79	46.91	2.20	2.45	2.72	3.03	1.65	1.93	2.15	2.47

Division of Crop and Livestock Estimates. From reports by crop reporters on December 1 for average wages for the year in their localities.

TABLE 677.—*Farm wages: Prevailing rates, 1922–1924.*

Basis of rate, year, and month.	United States.	North Atlantic States.	East North Central States	West North Central States.	South Atlantic States.	South Central States.	Western States.
Per month, with board:							
Oct. 1, 1922	28.97	37.05	33.92	34.41	21.37	21.46	45.38
Jan. 1, 1923	27.81	36.54	32.34	30.69	21.06	21.46	42.78
Apr. 1, 1923	30.98	41.02	37.14	36.22	23.04	22.49	45.55
July 1, 1923	34.38	47.66	41.23	39.43	25.01	24.47	53.35
Oct. 1, 1923	34.86	47.54	41.00	39.51	25.32	24.92	55.42
Jan. 1, 1924	31.71	42.34	37.30	33.71	24.60	23.55	48.54
Per month, without board:							
Oct. 1, 1922	41.58	54.65	47.02	48.78	31.10	30.96	66.81
Jan. 1, 1923	40.30	54.39	45.84	44.33	30.71	31.03	62.71
Apr. 1, 1923	44.47	60.41	51.81	50.12	33.69	32.92	66.82
July 1, 1923	48.14	67.03	56.30	55.31	35.10	35.01	74.00
Oct. 1, 1923	48.70	66.96	56.12	53.54	35.61	35.95	77.19
Jan. 1, 1924	45.81	63.38	52.07	48.01	35.32	34.44	70.68
Per day, with board:							
Oct. 1, 1922	1.57	2.15	1.95	1.94	1.09	1.07	2.33
Jan. 1, 1923	1.47	2.13	1.81	1.67	1.06	1.05	2.08
Apr. 1, 1923	1.57	2.27	1.91	1.83	1.14	1.10	2.19
July 1, 1923	1.84	2.72	2.30	2.14	1.32	1.26	2.60
Oct. 1, 1923	2.04	2.97	2.61	2.49	1.39	1.36	2.91
Jan. 1, 1924	1.81	2.60	2.33	2.08	1.28	1.24	2.52
Per day, without board:							
Oct. 1, 1922	2.06	2.86	2.54	2.59	1.45	1.46	3.06
Jan. 1, 1923	1.96	2.82	2.43	2.29	1.40	1.48	2.81
Apr. 1, 1923	2.11	3.04	2.55	2.47	1.53	1.48	2.98
July 1, 1923	2.45	3.58	3.01	2.90	1.75	1.68	3.47
Oct. 1, 1923	2.61	3.81	3.33	3.20	1.76	1.77	3.67
Jan. 1, 1924	2.41	3.48	3.09	2.73	1.74	1.65	3.38

TABLE 678.—*Farm labor: Supply and demand, 1918–1923.*

Division.	Farm labor supply, per cent of normal.					
	1918	1919	1920	1921	1922	1923
North Atlantic	62.5	82.8	62.3	92.1	99.2	73.3
South Atlantic	73.4	81.9	72.5	94.3	97.3	83.0
East North Central	74.7	86.6	68.4	95.1	101.4	76.5
West North Central	74.1	85.6	77.8	96.6	101.1	89.1
South Central	74.0	83.2	72.8	94.3	97.1	86.7
Far Western	76.8	90.0	8.21	102.3	107.0	91.3
United States	72.9	84.4	72.4	95.2	99.5	83.6

Division.	Farm labor demand, per cent of normal.					
	1918	1919	1920	1921	1922	1923
North Atlantic	96.5	101.9	107.8	92.7	94.8	95.2
South Atlantic	104.2	103.9	107.4	86.6	88.4	94.2
East North Central	99.4	101.2	106.0	91.2	91.0	96.4
West North Central	99.8	100.9	103.4	89.1	89.3	95.5
South Central	102.9	101.3	104.2	88.0	86.6	93.9
Far Western	99.3	102.4	101.5	89.0	89.9	94.0
United States	101.4	101.8	105.3	87.5	89.3	94.6

Division.	Supply as a percentage of demand.					
	1918	1919	1920	1921	1922	1923
North Atlantic	63.4	81.9	57.8	99.4	104.6	77.0
South Atlantic	70.4	78.8	67.5	108.9	110.1	88.1
East North Central	75.2	85.6	64.2	104.3	111.4	80.2
West North Central	74.2	84.8	75.2	108.4	113.2	93.3
South Central	71.9	82.1	69.9	113.6	112.1	92.3
Far Western	77.3	87.9	80.9	114.9	119.0	97.1
United States	71.9	82.9	68.8	108.8	111.4	88.4

Division of Crop and Livestock Estimates. Based upon reports of crop reporters on April 1.

PRICES OF ARTICLES BOUGHT BY FARMERS.

TABLE 679.—*Prices of articles bought by farmers, 1909–1922.*

Article.	1909	1914	1915	1916	1917	1918	1919	1920	1921	1922
Axes, each	$0.89	$0.96	$1.04	$1.12	$1.40	$1.79	$2.00	$2.25	$2.00	$1.96
Barb wire, 100 pounds	2.98	3.08	3.50	4.25	5.00	5.69	5.73	6.10	5.20	4.73
Barrels, each	.....	.25	.30	.33	.37	.45	.50	.76	.51	.58
Baskets, do	.....	.....	.40	.43	.50	.....	.....	.60	.50	.61
Bone meal, tons	.....	31.90	35.50	38.90	48.00	55.10	60.00	65.00	54.00	53.17
Brooms, each	.34	.38	.43	.53	.76	.98	1.00	.98	.78	.78
Buggies, do	64.90	70.10	75.00	80.00	89.00	107.00	123.00	131.00	108.00	102.85
Buggy whips, do	.404	.426	.45	.50	.57	.67	.73	.85	.70	.68
Calico, yards	.06	.063	.07	.084	.128	.207	.23	.227	.142	.14
Churns, each	2.19	2.30	2.42	2.70	3.50	2.62	2.90	3.25	3.00	3.35
Coal, ton	5.50	5.80	6.00	6.80	7.50	8.11	9.50	13.30	11.50	11.28
Coal oil, gallon	.157	.139	.141	.143	.159	.184	.22	.25	.19	.18
Coffee, pound	.211	.245	.248	.258	.265	.31	.46	.41	.32	.33
Corn knives, each	.27	.29	.32	.36	.43	.52	.58	.65	.55	.56
Cream separators, do	63.10	59.30	63.00	68.80	77.00	87.00	95.00	102.00	90.00	88.88
Dinner plates, ½ dozen	.55	.57	.60	.67	.88	1.18	1.40	1.58	1.31	1.31
Dish pans, each	.32	.34	.37	.45	.60	.74	.83	.95	.75	.76
Dung forks, do	.70	.76	.82	.90	1.03	1.23	1.40	1.60	1.40	1.44
Fertilizer, commercial, ton	22.15	23.20	25.90	27.00	31.90	38.80	42.00	44.00	35.00	30.08
Flour, barrel	6.30	6.40	7.30	9.75	12.95	12.45	13.50	12.90	8.80	8.07

TABLE 679.—*Prices of articles bought by farmers, 1909–1922*—Continued.

Article.	1909	1914	1915	1916	1917	1918	1919	1920	1921	1922
Fruit jars.....dozen..	$0.73	$0.74	$0.77	$0.80	$0.92	$1.06	$1.15	$1.25	$1.16	$1.15
Gasoline.....gallon..	.202	.179	.204	.23	.261	.278	.29	.33	.265	.24
Gloves, cotton.....pair..	------	------	------	------	------	.238	.26	.27	.19	.19
Gloves, leather.....do....	------	------	.85	.95	------	1.51	1.78	1.85	1.30	1.25
Halters.....each..	.85	.95	1.06	1.20	1.36	1.62	1.85	1.98	1.55	1.48
Harness, single.....do....	13.50	15.25	16.00	17.00	19.00	24.10	29.00	32.00	25.00	28.67
Harrows.....do....	------	------	12.60	14.60	19.30	------	------	30.00	25.50	24.90
Hatchets.....do....	.59	.62	.65	.70	.80	1.09	1.29	1.50	1.29	1.16
Hats, felt.....do....	1.94	2.03	2.13	2.25	2.65	3.35	4.30	5.00	3.50	3.46
Hoes.....do....	.41	.45	.49	.53	.61	.75	.83	.93	.80	.85
Horse blankets.....do....	2.25	2.40	2.60	2.90	3.50	4.33	5.00	5.35	4.15	4.05
Jumpers.....do....	.77	.83	.93	1.10	1.52	2.20	2.50	2.50	1.55	1.67
Kitchen chairs.....do....	.72	.80	.86	.92	1.12	1.42	1.70	2.10	1.65	1.79
Lamps.....do....	.50	.52	.60	.64	.72	.86	.98	1.10	.95	.99
Lanterns.....do....	.77	.80	.82	.85	1.00	1.20	1.32	1.45	1.30	1.35
Lard.....pound..	.132	.141	.154	.199	.286	.323	.34	.265	.16	.17
Lime.....barrel..	1.29	1.36	1.41	1.50	1.78	2.30	2.65	3.10	2.65	2.97
Linseed oil.....gallon..	.79	.82	.94	1.10	1.48	2.08	2.50	2.21	1.22	1.37
Lumber, 1-inch.....100 feet..	1.95	2.10	2.20	2.35	2.85	3.50	4.75	5.15	3.55	3.89
Manure spreaders.....each..	111.60	106.70	112.70	123.00	145.00	169.40	80.00	194.00	167.00	152.71
Men's suits.....do....	13.15	14.00	15.15	16.50	20.00	27.60	38.10	41.00	30.30	28.07
Milk cans, 10-gallon.....do....	2.40	2.45	2.70	3.10	4.30	5.50	6.00	6.20	5.30	4.98
Milk pails.....do....	.43	.45	.48	.53	.67	.79	.90	1.00	.80	.73
Mowers.....do....	44.30	46.50	49.50	53.00	63.00	79.20	84.00	88.00	78.00	77.24
Muslin.....yard..	.09	.093	.10	.116	.18	.272	.31	.30	.18	.18
Nails.....100 pounds..	3.34	3.40	3.82	4.25	5.25	5.97	6.50	7.30	5.75	5.45
Overalls.....pair..	.82	.89	.96	1.14	1.54	2.26	2.60	2.60	1.58	1.61
Padlocks.....each..	.27	.275	.28	.31	.37	.44	.50	.60	.50	.48
Paint brushes.....do....	.49	.54	.60	.70	.84	.97	1.15	1.35	1.15	1.25
Paint, mixed.....gallon..	1.62	1.74	1.98	2.20	2.80	3.40	4.05	4.30	3.35	3.33
Paris green.....pound..	.29	.30	.36	.43	.55	.62	.62	.64	.52	.49
Picks.....each..	.71	.72	.75	.81	.99	1.22	1.40	1.50	1.22	1.21
Pincers.....do....	.49	.51	.55	.62	.76	.87	.95	1.10	.90	.98
Pitchforks.....do....	.62	.66	.72	.80	.94	1.14	1.30	1.45	1.22	1.23
Plows, turning.....do....	11.50	12.10	13.00	14.25	18.00	20.00	21.00	23.00	20.00	22.35
Portland cement..100 pounds..	.70	.69	.76	.85	.95	.96	1.05	1.30	1.02	1.08
Raincoats.....each..	4.25	4.40	4.80	5.50	6.40	7.73	9.20	10.50	7.50	6.86
Rope, hemp.....pound..	.135	.149	.171	.21	.287	.349	.36	.355	.26	.26
Rubber boots.....pair..	3.55	3.75	3.90	4.25	4.50	5.00	5.10	5.30	4.55	4.46
Sacks, grain.....each..	.15	.163	.181	.20	.30	.43	.45	.42	.26	.27
Saddles.....do....	17.45	20.35	22.50	25.00	30.50	35.80	42.40	45.00	35.00	34.94
Salt, for stock.....barrel..	1.50	1.65	------	1.75	2.18	2.71	3.00	3.50	3.20	3.24
Saws, buck.....each..	.89	.92	.98	1.05	1.18	1.54	1.75	1.90	1.50	1.56
Screw hooks.....box..	.36	.37	.41	.50	.66	------	.75	.91	.71	.00
Scythes.....each..	1.02	1.06	1.12	1.20	1.30	1.60	1.82	2.10	1.85	2.04
Sheeting.....yard..	.17	.18	.202	.23	.32	.48	.58	.57	.40	.41
Shingles.....M..	3.50	3.70	3.95	4.20	4.70	5.65	7.90	8.10	5.80	6.12
Shirts, flannel.....each..	1.34	1.41	1.55	1.75	2.25	3.13	3.85	3.90	2.85	2.94
Shoes.....pair..	2.00	2.30	2.45	2.80	3.35	3.81	4.75	5.00	3.65	3.40
Shotguns.....each..	12.45	12.85	14.15	16.50	18.50	23.70	28.00	33.00	29.00	25.13
Shovels.....do....	.74	.78	.85	.95	1.15	1.42	1.02	1.85	1.53	1.45
Staples.....100 pounds..	3.69	3.75	4.15	4.60	5.70	6.41	6.80	7.60	6.20	5.86
Starch.....pound..	.07	.07	.071	.075	.095	.105	.118	.125	.103	.11
Steel wire.....100 pounds..	3.43	3.55	4.10	4.60	5.60	6.45	6.90	7.30	6.00	5.95
Stoves.....each..	22.50	24.00	26.00	29.00	37.00	44.00	50.00	61.00	52.00	55.47
Sugar.....pound..	.058	.069	.074	.082	.097	.115	.15	.17	.073	.09
Sulphur.....do....	.075	.08	.085	.095	.10	.116	.119	.12	.105	.13
Tedders.....each..	39.00	39.50	41.00	44.00	52.00	69.40	74.00	78.50	69.00	70.23
Tin pails.....do....	.25	.27	.29	.32	.41	.53	.59	.66	.50	.44
Tobacco, plug.....pound..	.45	.45	.455	.47	.56	.75	.93	.94	.85	.82
Twine, binder.....do....	.103	.112	.121	.15	.22	.265	.258	.20	.16	.13
Wagons, double.....each..	66.00	73.25	78.00	84.00	97.00	120.00	138.00	155.00	134.00	126.39
Wagons, single.....do....	45.50	48.00	51.00	55.50	69.00	75.00	83.00	95.00	79.00	81.23
Walking cultivators.....do....	------	------	17.00	19.00	------	32.90	35.20	40.00	34.00	30.05
Wheelbarrows.....do....	2.80	2.97	3.20	3.60	4.00	4.75	5.50	6.50	5.50	5.77
Wire fence.....rod..	.311	.317	.36	.42	.49	.57	.59	.64	.53	.52
Wooden buckets.....each..	.31	.35	.38	.45	.62	.85	.98	1.05	.90	1.04
Wooden wash tubs.....do....	.77	.83	.87	.95	1.20	1.56	1.75	1.90	1.50	1.62

Division of Crop and Livestock Estimates. As reported by dealers for the year about Dec. 15.

TABLE 680.—*Prices of articles bought by farmers, 1923 and Jan. 15, 1924.*

Article.	Unit.	United States.				
		1923				1924
		Jan. 15.	Apr. 15.	July 15.	Oct. 15.	Jan. 15.
Food:						
Bacon, smoked	Pound	$0.279	$0.270	$0.272	$0.272	$0.269
Beans, dry, edible	do	.104	.111	.109	.099	.096
Coffee	do	.317	.326	.332	.328	.337
Flour, wheat, 24 pounds	Sack	1.10	1.10	1.05	.99	1.00
Lard	Pound	.173	.173	.172	.179	.179
Rice	do	.09	.09	.089	.09	.092
Sugar	do	.088	.11	.112	.11	.107
Salmon, canned	16-oz	.223	.225	.24	.233	.238
Tomatoes, canned	34-oz	.189	.187	.188	.193	.191
Clothing:						
Boots, knee, rubber	Pair	4.28	4.33	4.28	4.35	4.32
Gingham, apron, domestic	Yard	.189	.203	.201	.205	.209
Overalls	Pair	1.62	1.73	1.77	1.81	1.87
Sheeting, 80 inches wide	Yard	.573	.609	.619	.619	.63
Shoes, work	Pair	3.48	3.50	3.43	3.63	3.64
Socks, work, cotton	do	.17	.174	.173	.182	.193
Suits, wool-serge, ready-made	Suit	25.83	25.95	26.12	26.95	27.35
Household articles:						
Blankets, cotton	Pair	2.74	2.64	2.69	2.79	2.94
Brooms, for sweeping	Each	.74	.82	.87	.90	.87
Dinner plates, plain	½ doz	1.19	1.19	1.16	1.17	1.21
Fruit jars, Mason, 1-quart	1 doz	1.11	1.10	1.08	1.04	1.08
Frying pan, cast iron, 10-inch	Each	.67	.70	.65	.66	.70
Kitchen chair, plain	do	1.59	1.59	1.67	1.60	1.71
Oil lamp, glass body	do	.82	.84	.80	.83	.85
Rugs, 9 by 12, tapestry	do	23.06	25.35	25.31	25.68	25.50
Rugs, 9 by 12, brussels	do	36.48	38.56	38.66	36.94	39.54
Washtubs, heavy galvanized	do	1.26	1.25	1.24	1.24	1.32
Building material:						
Bricks, common	1,000	20.18	20.36	20.43	20.79	21.76
Boards, rough, 1-inch, feet b. m	1,000	35.53	37.69	37.44	37.39	36.49
Flooring, clear, 1-inch tongue and groove, feet b. m	1,000	64.70	67.32	68.33	64.19	64.91
2-inch framing lumber, feet b. m	1,000	37.37	39.73	40.17	38.71	37.51
House paint, ready-mixed	Gall	3.16	3.29	3.34	3.32	3.37
Lime, common, lump	100 lbs	1.71	1.79	1.75	1.76	1.86
Portland cement	96 lbs	1.05	1.00	1.06	1.02	1.62
Roofing, composition, 2-ply	108 sq. ft	3.03	3.01	3.02	3.00	2.97
Roofing, steel, galvanized, 2½-inch corrugated, 29 gauge	100 sq. ft	5.88	5.90	6.01	5.99	5.93
Fuel:						
Coal, hard (anthracite)	Ton	16.16	15.76	15.71	16.11	16.29
Coal, soft (bituminous)	do	10.70	10.30	9.69	9.51	9.50
Gasoline	Gall	.223	.259	.247	.20	.199
Kerosene	do	.177	.181	.181	.169	.174
Machinery and equipment:						
Auto tires, fabric, 30 by 3½ inches	Each	10.77	10.85	10.91	10.44	10.27
Barbed wire, galvanized	100 lbs	4.87	5.05	5.26	5.19	5.19
Binder twine	Pound	.132	.137	.134	.135	.136
Centrifugal hand cream separator, 250-quart capacity	Each	79.10	80.61	81.91	84.06	85.31
Dairy milk cans, 10-gallon	do	4.85	4.82	4.96	4.85	5.00
Engines, gasoline, 3 horsepower	do	97.44	100.48	102.45	103.00	103.99
Grain binders, 7-foot	do	201.61	206.95	217.97	217.19	222.81
Harrows, disk, 7-foot, single	do	53.36	54.51	55.25	53.00	57.74
Hay rakes, 2-horse, sulky	do	40.67	39.88	43.75	43.34	44.91
Horse collars, leather	do	5.06	5.24	5.37	5.26	5.40
Mower, 5-foot	do	74.39	76.92	81.39	81.00	81.23
Nails, 8d wire	Pound	.058	.06	.062	.061	.062
Oil, machine, lubricating	Gall	.69	.67	.69	.70	.71
Pitchforks, 3 tines	Each	1.14	1.18	1.21	1.21	1.23
Plow, 2-horse, walking	do	18.24	18.83	18.94	19.83	19.92
Plow, riding, horse-drawn, 2 bottoms	do	85.10	89.54	91.79	89.47	95.00
Poultry netting, 5 by 150 feet	Bale	6.51	6.39	6.41	6.42	6.41
Rope, manila	Pound	.266	.275	.273	.268	.273
Wagons, double, complete	Each	128.26	129.99	134.42	134.00	135.08
Fertilizer:						
Acid phosphate, 16 per cent	Ton	20.10	21.12	21.31	20.95	21.09
Kainit	do	18.70	18.35	17.37	16.26	17.68
Limestone, ground	do	4.77	5.33	5.62	4.50	5.88
Muriate of potash	do	48.08	48.66	48.41	50.95	52.71
Nitrate of soda	100 lbs	2.62	3.53	3.76	4.09	3.53
Feeds:						
Bran	do	1.75	1.95	1.85	1.84	1.83
Corn meal	do	2.27	2.39	2.56	2.60	2.44
Cottonseed meal	do	2.81	2.79	2.70	2.73	2.81
Linseed meal	do	3.10	2.99	2.92	2.98	2.98
Middlings	do	1.96	2.17	2.12	2.08	2.04
Rock salt, for stock	do	1.34	1.39	1.35	1.27	1.27

Division of Crop and Livestock Estimates. Averages of local prices reported quarterly.

FEED.

TABLE 681.—*Oil cake and oil-cake meal: International trade, calendar years, 1909–1922.*

Country.	Average, 1909–1913.		1920		1921		1922, preliminary.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Argentina	----------	42,587	----------	81,389	----------	75,719	----------	62,525
Australia	148	1,347	563	12,905	33	15,243	----------	----------
Austria	----------	----------	6,528	4,281	1,924	2,871	----------	----------
Austria-Hungary	53,673	124,873	----------	----------	----------	----------	----------	----------
Brazil	----------	[1] 6,574	----------	55,996	----------	52,710	----------	----------
British India	1,262	268,648	4,331	258,686	3,299	208,181	2,189	312,062
Canada	7,752	51,370	14,060	19,260	15,200	35,785	3,873	45,727
China	[2] 174	147,468	----------	195,959	----------	217,258	----------	144,285
Dutch East Indies	2,509	13,242	365	163,542	241	35,144	[3] 35,545	----------
Egypt	----------	161,624	60	181,782	----------	205,894	----------	----------
France	288,968	476,863	16,067	97,001	47,189	202,643	82,372	213,200
Germany	1,686,416	525,108	111,101	7,590	[4] 47,216	[4] 274,299	209,655	371,291
Italy	10,550	55,115	69	78,100	1,614	139,016	3,919	156,688
Mexico	----------	33,764	----------	----------	----------	----------	----------	----------
Peru	----------	10,930	----------	22,800	----------	27,355	----------	37,097
Russia	----------	1,453,413	----------	----------	----------	----------	----------	----------
Spain	----------	2,164	----------	2,610	----------	7,267	87	20,445
United States	----------	1,704,124	228,853	589,562	88,406	1,206,484	108,712	926,301
PRINCIPAL IMPORTING COUNTRIES.								
Belgium	543,648	155,373	51,927	70,602	266,368	51,143	264,303	52,931
Ceylon	[5] 40,494	[5] 28,509	----------	----------	21,314	13,427	41,292	12,935
Denmark	1,002,329	15,777	569,272	28	816,000	12,401	918,004	----------
Finland	25,333	2,125	22,031	----------	18,175	----------	15,707	----------
Japan	189,868	----------	307,347	5,683	267,444	1,334	----------	----------
Netherlands	707,116	219,819	197,312	203,258	512,464	69,624	414,635	116,659
Norway	55,112	2,889	29,987	----------	68,365	15	43,469	----------
Sweden	346,755	1,535	137,265	7,989	169,242	22,870	141,454	----------
Switzerland	69,352	1,413	53,922	2,382	90,234	2,407	91,677	1,586
United Kingdom	790,865	161,798	460,766	48,711	712,333	76,368	708,680	85,001
Other countries	30,172	41,595	36,756	32,962	13,607	10,554	647	1,713
Total	5,852,496	5,710,047	2,248,573	2,142,373	3,160,668	2,966,112	3,050,655	2,597,991

Division of Statistical and Historical Research. Official sources.
The class called here "oil cake and oil-cake meal" includes the edible cake and meal remaining after making oil from such products as cottonseed, flaxseed, peanuts, corn, etc.

[1] Four-year average.
[2] Three-year average.
[3] Java and Madura only.
[4] Eight months, May–December.
[5] One year only.

TABLE 682.—*Bran: Average price per ton at Minneapolis, 1916–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1916	$18.78	$20.10	$18.54	$18.63	$19.05	$18.32	$17.69	$20.03	$21.71	$24.50	$27.08	$25.93	$20.86
1917	28.75	32.55	34.20	33.54	33.77	29.97	32.15	31.83	30.28	30.55	33.46	38.02	32.59
1918	32.50	32.50	32.55	33.04	31.27	30.74	26.00	29.31	29.06	28.45	27.80	33.49	30.58
1919	47.26	42.53	38.09	39.73	37.39	34.20	37.41	40.38	37.49	36.82	37.94	41.50	39.26
1920	41.98	42.68	46.69	50.26	53.25	50.78	47.83	41.88	38.42	30.63	31.85	28.23	42.04
1921	25.93	21.44	21.64	16.41	15.97	14.80	14.06	13.93	12.97	12.15	14.79	20.63	17.06
1922	20.98	24.75	23.85	22.29	20.91	15.35	15.31	14.06	16.88	21.81	22.65	24.14	20.25
1923	26.20	------	28.44	27.38	27.10	20.94	19.75	22.65	27.62	28.10	25.59	------	------

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.

TABLE 683.—*Middlings: Average price per ton at Minneapolis, 1916–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1916	$19.41	$21.61	$20.22	$19.50	$20.06	$20.10	$19.88	$21.48	$22.50	$27.19	$30.81	$27.88	$22.55
1917	28.83	32.55	34.20	39.56	36.15	33.27	41.90	41.78	35.09	36.25	37.40	39.05	36.34
1918	34.50	34.50	34.85	35.04	33.27	32.69	27.61	31.00	36.90	30.77	30.09	26.27	32.62
1919	48.84	44.14	38.56	40.74	44.81	42.90	47.22	53.08	51.46	44.44	41.22	43.13	45.04
1920	43.97	47.28	51.57	54.88	57.77	56.06	54.22	52.56	45.65	30.62	28.86	23.94	45.62
1921	23.47	20.91	20.86	15.38	15.29	14.83	14.07	14.64	13.97	13.16	15.35	20.73	16.89
1922	20.51	24.76	25.54	23.21	21.20	17.13	17.30	16.24	18.07	23.06	23.23	23.71	21.16
1923	25.90	------	28.31	27.22	28.70	25.25	24.78	25.48	28.16	28.10	25.09	------	------

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.

TABLE 684.—*Linseed Oil Meal: Average price per ton at New York, 1910–1923.*

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$37.46	$36.90	$35.50	$35.50	$35.50	$35.50	$35.50	$34.12	$33.75	$33.50	$34.33	$35.71	$35.27
1911–12	40.00	40.75	40.12	39.00	39.65	40.17	39.75	38.90	38.10	37.30	36.57	35.50	38.81
1912–13	35.38	35.30	34.38	32.75	32.34	31.90	29.20	27.86	28.12	28.25	29.40	30.12	31.25
1913–14	32.50	32.00	31.40	31.25	31.25	31.35	31.25	31.50	31.50	32.27	32.80	34.60	31.97
1914–15	33.62	32.83	32.75	35.10	38.75	41.00	37.13	35.50	32.50	32.50	35.31	37.71	35.39
1915–16	39.70	38.75	38.50	40.50	40.60	39.50	36.63	32.86	31.50	32.12	33.00	37.00	36.72
1916–17	39.50	42.28	45.45	47.50	48.50	48.50	48.33	47.00	49.44	49.25	51.08	53.50	47.53
1917–18	53.00	54.00	54.42	57.00	58.15	58.50	58.50	57.00	52.50	50.00	52.80	54.00	54.99
1918–19	55.00	56.00	55.75	56.50	62.15	63.35	65.50	65.50	70.50	75.50	82.30	90.25	66.52
1919–20	81.58	73.80	78.75	80.75	81.50	71.75	70.40	62.50	60.00	60.00	60.00	60.00	70.09
1920–21	60.00	60.00	56.80	52.00	48.38	43.12	43.75	46.00	36.25	37.00	41.60	46.88	47.65
Av. 1914–1920	51.77	51.09	51.77	52.76	54.00	52.25	51.46	49.48	47.53	48.05	50.87	54.19	51.27
1921–22	46.30	40.00	40.75	48.00	51.00	51.62	55.00	49.50	47.62	49.20	46.88	45.50	47.61
1922–23	43.50	43.50	(1)	(1)	53.50	54.12	46.30	43.25	42.50	38.00	38.00	38.00	------
1923–24	45.00	45.62	43.88	45.00	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. From Annual Statistical Review of New York Produce Exchange and the Oil, Paint, and Drug Reporter.

[1] Nominal.

TABLE 685.—*Cottonseed meal, 36 per cent protein: Price per ton, Memphis, 1910–1923.*

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1910–11	$26.00	$25.75	$25.38	$24.38	$24.38	$23.88	$23.25	$23.25	$23.88	$23.88	$24.50	$25.63	$24.51
1911–12	26.50	25.75	24.63	24.63	24.63	24.38	25.13	26.00	27.25	28.00	27.25	26.75	25.91
1912–13	26.75	25.63	24.38	24.63	25.50	25.75	25.13	25.13	26.75	28.00	28.75	30.63	26.42
1913–14	31.75	27.00	27.13	27.38	27.25	26.75	26.13	26.75	27.63	27.75	27.50	27.75	27.56
1914–15	28.00	23.75	22.75	22.38	23.50	24.75	27.25	26.88	26.50	26.00	25.25	25.13	25.18
1915–16	25.63	27.13	30.50	32.00	34.00	32.25	29.00	28.38	28.88	27.75	27.25	27.25	29.17
1916–17	28.25	30.75	35.25	39.25	39.00	37.50	36.25	36.25	38.50	39.50	42.25	44.50	37.27
1917–18	45.50	43.00	45.50	49.75	46.50	46.50	46.50	46.50	46.50	46.50	46.50	46.50	46.31
1918–19	46.50	46.50	46.50	54.00	54.00	54.00	54.00	54.00	54.00	54.00	59.13	69.75	53.87
1919–20	76.25	63.00	66.50	70.25	69.25	71.00	65.00	65.75	64.81	65.13	63.63	59.40	66.66
1920–21	55.00	51.25	39.50	34.13	28.00	28.33	26.50	25.17	23.50	28.92	29.75	34.00	33.67
Av. 1914–1920	43.59	40.77	40.93	43.11	42.04	42.05	40.64	40.42	40.38	41.11	41.97	43.79	41.73
1921–22	36.44	36.00	34.50	33.44	34.20	34.75	36.12	41.12	43.00	43.75	42.50	39.80	37.97
1922–23	34.00	32.60	37.60	42.80	42.10	41.90	41.25	39.60	39.10	38.25	36.00	35.40	------
1923–24	39.00	40.20	40.75	42.70	40.60	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Figures prior to 1919 from Cotton Oil Press.

TABLE 686.—*Cottonseed meal, 36 per cent protein, bagged: Average price per ton at 14 markets, 1923.*

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Atlanta	$42.75	$42.50	$42.00	$40.75	$38.75	$36.60	$36.40	$36.80	$39.75	$40.50	$42.20	$42.50	$40.12
Baltimore	------	------	47.50	47.25	45.50	42.90	42.20	43.25	46.20	44.60	49.70	48.70	------
Boston	51.60	50.60	49.40	46.60	45.30	42.75	43.25	44.75	48.50	48.70	49.40	48.60	47.45
Buffalo	------	47.50	46.00	45.50	44.80	42.60	42.90	44.50	46.40	46.75	49.25	47.70	------
Chicago	47.25	46.40	44.80	44.25	44.10	40.75	41.00	43.60	45.90	45.50	47.60	46.10	44.77
Cincinnati	46.40	46.30	44.20	43.40	43.10	41.10	41.00	42.10	44.40	45.25	47.30	45.25	44.15
Jacksonville	45.50	45.00	43.80	40.80	38.00	37.50	36.60	39.00	41.50	------	------	------	------
Memphis	41.90	41.25	39.60	39.10	38.25	36.00	35.40	39.00	40.20	40.75	42.70	40.60	39 56
New Orleans	47.00	------	46.20	44.75	44.50	42.70	40.80	43.40	44.00	------	------	------	------
New York	50.70	50.40	48.70	46.60	47.10	43.60	43.70	46.10	47.80	------	------	------	------
Philadelphia	50.20	49.70	48.20	47.00	46.70	43.50	43.90	45.75	47.30	48.25	50.90	49.25	47.55
Pittsburgh	48.25	46.90	46.70	44.90	45.60	44.25	41.75	43.10	45.40	46.50	49.60	46.90	45.82
Richmond	49.50	46.25	46.90	46.30	45.25	42.90	42.30	44.00	45.00	------	------	------	------
Savannah	45.75	45.50	44.40	41.50	40.90	38.10	37.75	38.40	40.90	41.40	42.90	42.10	41.63

Division of Statistical and Historical Research. Compiled from weekly reports of the Hay, Feed, and Seed Division.

TABLE 687.—*Linseed meal, bagged: Average price per ton at 12 markets, 1923.*

Market.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Boston	$57.40	$56.30	$48.40	$45.60	$45.00	$44.60	$44.70	$48.00	$49.30	$50.90	$48.40	$49.20	$48.98
Buffalo	------	50.00	43.75	41.20	39.60	39.50	40.40	45.50	45.50	46.00	43.80	44.50	------
Chicago	54.10	52.90	45.80	43.30	40.90	38.75	41.90	46.75	50.25	51.25	48.50	47.00	46.78
Cincinnati	56.60	56.60	50.50	45.10	44.40	40.30	41.75	47.40	50.40	51.00	49.60	47.90	48.46
Jacksonville	61.00	60.00	59.20	50.25	50.00	48.00	52.00	50.00	52.00	------	------	------	------
Kansas City	57.50	55.90	48.90	46.60	45.60	43.00	44.10	49.90	53.30	52.40	50.60	49.30	49.76
Minneapolis	53.10	51.25	45.00	42.10	40.40	37.70	39.75	45.40	47.50	48.40	46.25	46.00	45.24
New York	56.60	55.00	50.00	46.40	45.00	44.20	44.10	47.80	48.70	------	------	------	------
Omaha	57.00	56.00	49.30	46.40	44.00	42.00	44.90	49.80	53.30	52.40	50.90	50.25	49.69
Philadelphia	57.00	54.90	48.40	44.90	44.00	43.50	43.70	47.90	48.90	48.80	47.60	48.60	48.13
Pittsburgh	58.00	56.40	51.10	47.25	43.40	41.25	44.30	45.70	51.25	52.00	51.30	47.50	49.12
San Francisco	51.75	51.25	51.70	53.00	52.00	50.20	50.00	50.75	49.25	47.50	48.00	48.50	50.32

Division of Statistical and Historical Research. Compiled from weekly reports of the Hay, Feed, and Seed Division.

TABLE 688.—*Bran: Price per ton paid by farmers. United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$26.20	$27.00	$27.08	$26.58	$26.10	$25.37	$25.22	$25.19	$24.95	$24.56	$24.45	$24.68
1911	24.92	25.27	24.94	25.48	25.93	25.87	25.80	25.92	26.09	26.52	26.72	26.99
1912	27.39	28.62	29.16	29.73	30.18	29.35	28.41	27.41	26.82	26.58	25.66	25.16
1913	25.24	25.32	24.96	24.69	24.59	24.67	24.65	25.10	26.59	26.53	26.47	26.43
1914	26.53	26.91	27.58	28.50	28.08	27.75	26.36	27.24	27.86	26.71	26.40	26.72
1915	27.91	28.96	28.23	28.28	28.41	27.68	27.47	27.22	26.47	25.81	25.42	25.53
1916	25.93	26.23	26.05	25.97	25.97	26.13	25.81	26.53	27.50	28.48	31.54	32.49
1917	32.76	34.87	38.33	42.07	44.19	40.83	40.40	43.16	39.46	39.23	39.42	42.53
1918	41.32	42.07	42.62	42.82	42.41	42.30	40.69	39.63	39.54	39.38	39.22	38.96
1919	49.78	49.95	47.98	48.24	48.66	47.54	47.14	49.28	49.58	47.70	48.32	48.79
1920	50.23	51.13	51.95	55.26	58.69	59.53	59.91	56.62	55.05	48.43	44.69	41.61
1921	39.74	36.77	35.18	32.15	29.71	29.35	26.83	26.25	25.31	24.22	23.80	26.10
1922	36.08	29.90	32.09	31.94	31.81	30.22	28.29	27.24	26.24	28.25	30.78	31.58
1923	32.53	33.58	35.48	35.86	36.44	35.32	33.27	31.31	32.60	34.84	35.19	34.67

Division of Crop and Livestock Estimates. As reported monthly by country dealers.

TABLE 689.—*Cottonseed meal: Price per ton paid by farmers, United States, 1910–1923.*

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$32.33	$33.77	$33.17	$32.70	$32.69	$32.18	$32.38	$32.64	$32.36	$31.84	$31.37	$31.58
1911	31.83	31.42	31.32	31.09	31.08	30.92	31.17	30.92	31.01	30.73	30.12	30.50
1912	30.42	30.57	31.22	31.80	32.26	31.84	31.82	31.53	30.60	30.28	29.37	30.16
1913	30.97	31.16	31.08	30.89	31.23	31.53	31.56	31.78	32.32	31.94	31.97	32.36
1914	32.49	32.59	32.65	32.75	32.98	32.68	32.62	32.34	30.73	29.44	28.36	28.64
1915	29.53	30.38	31.32	31.43	31.54	31.39	31.36	31.07	30.79	33.77	34.96	36.45
1916	37.03	37.08	36.46	36.02	35.72	35.60	34.93	35.05	36.17	37.80	41.52	42.96
1917	42.95	43.33	43.67	44.73	45.62	45.17	46.45	49.25	50.00	50.98	53.52	55.52
1918	55.93	56.25	56.59	56.41	56.21	56.18	55.69	55.60	57.40	59.22	59.93	60.64
1919	62.81	62.61	62.88	63.29	63.40	63.06	64.77	71.72	74.08	72.58	76.16	78.57
1920	79.39	79.79	79.70	78.87	78.74	78.52	77.63	73.84	68.22	61.81	50.96	47.97
1921	42.92	41.93	40.17	37.41	36.75	37.84	38.24	40.74	41.97	43.54	43.67	44.23
1922	45.08	45.26	47.90	49.44	50.47	50.42	51.06	48.87	45.48	46.10	50.54	52.70
1923	52.79	53.91	53.37	52.79	52.35	51.89	50.36	49.64	49.47	51.08	51.49	51.75

Division of Crop and Livestock Estimates. As reported monthly by country dealers.

FARM EQUIPMENT.

TABLE 690.—*Farm equipment manufactured and sold in the United States, 1920–1922.*

Calendar year.	Manufactured.		Sold in the United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Planting machinery:						
1920	472,248	$30,097,000	498,853	$31,612,000	16,832	$1,458,000
1921	310,655	8,441,000	209,572	5,870,000	9,689	466,000
1922	189,230	4,214,000	192,415	5,241,000	8,613	449,000
Plows and listers:						
1920	1,361,578	43,222,000	1,215,979	37,699,000	221,077	7,200,000
1921	566,209	13,007,000	407,760	9,071,000	102,262	2,648,000
1922	441,800	9,680,000	455,836	11,215,000	88,133	1,401,000
Tillage implements:						
1920	----------	22,919,000	----------	20,636,000	----------	1,665,000
1921	----------	10,436,000	----------	7,488,000	----------	980,000
1922	----------	4,777,000	----------	5,472,000	----------	325,000
Cultivators:						
1920	580,179	15,186,000	599,330	17,296,000	45,863	670,000
1921	447,627	8,265,000	368,365	6,545,000	41,939	282,000
1922	259,535	4,272,000	305,773	5,571,000	12,728	226,000
Haying machinery:						
1920	411,556	24,703,000	338,112	19,667,000	94,011	6,220,000
1921	219,429	10,230,000	139,412	6,776,000	30,968	1,807,000
1922	154,367	7,626,000	189,567	8,891,000	14,330	734,000
Harvesting machinery:						
1920	232,177	41,015,000	168,829	30,626,000	41,334	7,339,000
1921	119,111	18,028,000	60,667	8,977,000	33,933	5,840,000
1922	80,565	11,822,000	80,337	11,242,000	16,512	2,747,000
Machines for preparing crops for market or use:						
1920	196,772	35,612,000	159,918	34,749,000	30,220	3,010,000
1921	87,988	21,436,000	64,459	15,032,000	9,670	1,988,000
1922	172,288	18,294,000	148,988	19,873,000	30,024	3,487,000
Tractors:						
Gas—						
1920	203,207	193,563,000	162,988	161,896,000	29,143	30,850,000
1921	73,196	50,295,000	(1)	(1)	(1)	(1)
1923	99,692	52,178,000	101,192	52,440,000	10,282	6,458,000
Steam—						
1920	1,766	4,661,000	1,401	3,903,000	121	370,000
1921	1,168	2,874,000	724	1,737,000	72	188,000
1922	396	1,065,000	519	1,431,000	56	228,000
Horse-drawn vehicles:						
1920	449,095	42,423,000	430,459	40,929,000	3,810	339,000
1921	92,816	8,861,000	(1)	(1)	(1)	(1)
1922	148,548	11,953,000	156,207	13,410,000	2,038	116,000
Barn and barnyard equipment:[2]						
1921	----------	430,000	----------	437,000	----------	----------
1922	----------	4,596,000	----------	4,306,000	----------	3,000

[1] The sales statistics for 1921 relate exclusively to complete machines and were compiled almost wholly from returns made by 427 establishments classified in the "agricultural implements" industry. No sales data were collected for that year from establishments manufacturing gas tractors, horse-drawn vehicles, barn equipment, and miscellaneous farm equipment.

[2] Figures for 1921 relate to barn equipment only. No data for 1920.

TABLE 690.—*Farm equipment manufactured and sold in the United States, 1920–1922*—Continued.

Calendar year.	Manufactured.		Sold in the United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Miscellaneous:						
1920		$93,544,000		$82,429,000		$7,495,000
1921		175,738,000		(1)		(1)
1922		79,224,000		83,886,000		5,494,000
Grand total:						
1920		536,945,000		471,442,000		66,626,000
1921		328,041,000		(1)		(1)
1922		209,640,000		222,908,000		21,663,000

Division of Statistical and Historical Research. Figures for 1920, Bureau of Public Roads. Figures for 1921 and 1922, Bureau of the Census.

[1] The sales statistics for 1921 relate exclusively to complete machines and were compiled almost wholly from returns made by 427 establishments classified in the "agricultural implements" industry. No sales data were collected for that year from establishments manufacturing gas tractors, horse-drawn vehicles, barn equipment, and miscellaneous farm equipment.

MORTGAGE DEBT.

TABLE 691.—*Mortgage debt on owner-operated farms, 1910 and 1920.*

State.	Number farms operated by owners (per cent of all farms).		Average size of owner-operated farm.		Per cent of owner-operated farms mortgaged.		Average debt per farm.		Average debt per acre.	
	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920
	Per cent.	*Per cent.*	*Acres.*	*Acres.*	*Per cent.*	*Per cent.*				
Maine	94.1	94.2	104.8	111.7	26.5	28.7	$845	$1,506	$8.06	$13.48
New Hampshire	90.5	90.6	116.9	123.4	25.5	29.0	842	1,378	7.20	11.17
Vermont	85.8	86.4	136.0	140.2	46.8	48.7	1,025	2,049	7.54	14.61
Massachusetts	86.9	87.8	73.1	72.0	40.6	45.0	1,361	2,007	18.62	27.88
Rhode Island	77.2	79.5	77.9	76.7	28.9	29.2	1,355	1,746	17.39	22.76
Connecticut	86.6	86.8	78.8	78.4	42.9	45.4	1,309	2,195	16.61	28.00
New York	77.3	78.5	94.9	99.4	43.4	43.9	1,556	2,436	16.40	24.51
New Jersey	72.1	73.7	64.8	65.1	48.9	46.1	1,826	2,703	28.18	41.52
Pennsylvania	74.9	75.9	78.5	81.5	30.9	31.6	1,368	1,976	17.43	24.25
Delaware	57.0	59.3	77.2	75.1	36.6	33.6	1,518	2,344	19.66	31.21
Maryland	68.5	68.5	86.7	83.9	36.2	34.6	1,457	2,641	16.81	31.48
Virginia	72.6	73.2	110.1	100.9	15.8	17.8	887	1,972	8.06	19.54
West Virginia	78.6	82.6	107.7	108.4	12.5	14.2	710	1,241	6.59	11.45
North Carolina	57.3	56.1	107.7	88.8	18.3	16.2	517	1,587	4.80	17.87
South Carolina	36.5	35.1	125.1	99.2	23.3	21.1	903	2,051	7.22	20.68
Georgia	33.9	32.9	150.6	125.3	18.5	22.7	794	1,811	5.27	14.45
Florida	70.8	71.3	121.1	105.5	14.6	21.1	652	1,767	5.38	16.75
Ohio	70.6	69.3	83.5	84.3	28.6	28.5	1,491	2,812	17.86	33.36
Indiana	68.9	66.9	93.9	93.8	38.3	37.5	1,433	2,604	15.26	27.76
Illinois	57.6	55.9	122.6	122.7	38.4	38.5	3,135	5,379	25.57	43.84
Michigan	83.3	81.1	87.7	91.2	48.0	49.4	1,107	2,147	12.62	23.54
Wisconsin	85.3	84.3	115.0	111.8	51.1	59.1	2,116	4,072	18.40	36.42
Minnesota	78.2	74.4	169.3	158.3	46.0	52.4	1,864	4,419	11.01	27.92
Iowa	61.3	57.1	152.0	148.1	51.2	54.2	4,048	9,358	26.63	63.19
Missouri	69.4	70.4	131.0	133.4	46.0	46.2	1,758	3,147	13.42	23.59
North Dakota	85.0	73.3	373.1	471.7	50.2	71.1	2,493	4,786	6.68	10.15
South Dakota	74.7	64.1	333.1	505.5	37.4	57.0	2,897	6,402	8.70	12.66
Nebraska	61.1	56.0	340.4	379.2	38.9	50.5	3,154	7,025	9.27	18.53
Kansas	62.5	58.7	259.6	282.0	44.3	45.4	2,326	4,083	8.96	14.48
Kentucky	65.7	66.3	102.5	93.6	19.4	22.6	906	1,889	8.84	20.18
Tennessee	58.6	58.6	101.8	93.0	16.7	21.8	727	1,812	7.14	19.48
Alabama	39.5	41.8	127.8	113.2	26.4	26.0	538	1,176	4.21	10.39
Mississippi	33.6	33.6	127.3	124.1	32.3	26.3	586	1,375	4.60	11.08
Louisiana	44.0	42.3	127.7	109.3	18.6	20.6	1,190	1,989	9.32	18.20
Texas	46.9	46.1	353.3	339.2	32.7	34.8	1,584	2,984	4.48	8.80
Oklahoma	44.9	48.6	187.3	198.2	42.2	50.4	1,114	2,157	5.95	10.88
Arkansas	49.7	48.4	116.2	104.8	21.0	30.2	540	1,306	4.65	12.46
Montana	89.1	87.2	455.4	575.9	20.6	59.5	2,692	3,669	5.91	6.37
Wyoming	89.0	85.1	526.9	698.3	19.7	41.1	2,749	3,887	5.22	5.57
Colorado	80.1	75.6	274.0	411.2	26.0	46.7	2,508	3,980	9.15	9.68
New Mexico	93.6	86.3	212.5	693.2	5.3	24.3	1,854	2,581	8.72	3.72
Arizona	88.9	78.9	106.7	485.4	12.7	43.0	2,772	5,441	25.98	11.21
Utah	91.2	88.0	146.1	179.9	22.7	43.9	1,294	3,009	8.86	16.73
Nevada	80.9	85.3	474.7	525.9	16.6	32.8	4,738	8,499	9.98	16.16
Idaho	88.2	82.3	163.7	196.2	33.2	57.9	1,917	4,076	11.71	20.77
Washington	84.5	79.5	191.9	175.7	33.7	45.5	2,017	3,134	10.51	17.84
Oregon	83.1	79.4	239.1	251.3	33.4	44.8	2,060	3,622	8.62	14.41
California	75.5	74.4	227.0	196.3	40.1	50.4	2,802	6,001	12.34	30.57
United States	62.1	60.9	151.6	162.2	33.2	37.2	1,715	3,356	9.99	17.50

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

BANKRUPTCY AMONG FARMERS.

TABLE 692.—*Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910–1923.*

State.	1909–10			1910–11			1911–12			1912–13			1913–14		
	Total.	Farmers.		Total.	Farmers.		Total.	Farmers.		Total.	Farmers.		Total.	Farmers.	
		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.
Maine	697	85	12.2	496	66	13.3	584	110	18.8	568	59	10.4	597	66	11.1
New Hampshire	114	7	6.1	59	1	1.7	83	3	3.6	107	6	5.6	170	4	2.4
Vermont	112	19	17.0	125	10	8.0	113	11	9.7	108	9	8.3	108	8	7.8
Massachusetts	977	7	.7	950	6	.6	914	19	2.1	872	4	.5	1,112	9	.8
Rhode Island	76	3	4.0	84	----	----	85	1	1.2	144	----	----	90	----	----
Connecticut	74	2	2.7	192	2	1.0	221	4	1.8	210	3	1.4	138	1	.7
New York	1,838	37	2.0	2,110	37	1.8	2,272	33	1.5	2,402	41	1.7	2,078	33	1.6
New Jersey	87	1	1.2	112	1	.9	430	4	.9	288	4	1.4	266	4	1.5
Pennsylvania	966	14	1.5	799	10	1.3	617	21	3.4	990	21	2.1	762	26	3.4
Ohio	886	32	3.6	742	27	3.6	835	24	2.9	849	28	3.3	808	27	3.3
Indiana	316	18	5.7	245	26	10.6	230	13	5.7	309	23	7.4	302	19	6.3
Illinois	1,315	43	3.3	1,105	27	2.4	1,328	34	2.6	1,052	29	2.8	1,651	35	2.1
Michigan	301	2	.7	301	4	1.3	298	3	1.0	347	56	15.3	153	2	1.3
Wisconsin	229	3	1.3	251	5	2.0	213	4	1.9	292	10	3.4	310	8	2.6
Minnesota	572	60	10.5	333	28	8.4	422	29	6.9	411	32	7.8	430	29	6.7
Iowa	272	85	31.3	285	56	19.7	276	82	29.7	358	60	16.8	345	69	20.0
Missouri	494	16	3.2	506	10	2.0	346	9	2.6	518	15	2.9	523	11	2.1
North Dakota	180	67	51.5	119	41	34.5	125	54	43.2	165	92	55.8	194	105	54.1
South Dakota	82	30	36.6	36	11	30.6	94	19	20.2	86	25	29.1	115	42	36.5
Nebraska	104	15	14.4	95	14	14.7	111	15	13.5	145	15	10.3	114	12	10.5
Kansas	148	14	9.5	145	7	4.8	173	11	6.4	196	19	9.7	259	21	8.1
Delaware	7	----	----	9	----	----	16	2	12.5	7	1	14.3	33	2	6.1
Maryland	151	5	3.3	81	6	7.4	117	6	5.1	109	4	3.7	139	7	5.0
Dist. Columbia	52	----	----	60	----	----	43	----	----	56	----	----	43	----	----
Virginia	300	6	2.0	359	14	3.9	431	7	1.6	514	17	3.3	468	12	2.6
West Virginia	187	10	5.4	277	13	4.7	306	10	3.3	292	9	3.1	521	1	.2
North Carolina	71	1	1.4	99	1	1.0	83	----	----	52	1	1.9	108	1	.9
South Carolina	98	1	1.0	67	3	4.5	85	2	2.4	107	1	.9	108	3	2.8
Georgia	410	39	9.5	487	40	8.2	506	48	9.5	557	51	9.2	670	73	10.9
Florida	133	1	.8	89	1	1.1	102	4	3.9	200	1	.5	153	1	.7
Kentucky	298	19	6.4	204	25	12.3	285	37	13.0	369	34	9.2	466	29	6.2
Tennessee	604	8	1.3	517	20	3.9	694	19	2.7	660	14	2.1	530	19	3.6
Alabama	257	10	3.9	395	18	4.6	519	32	6.2	792	31	3.9	1,227	52	4.2
Mississippi	183	1	.6	100	2	2.0	101	3	3.0	201	4	2.0	157	----	----
Arkansas	159	12	7.6	183	10	5.5	140	16	11.4	148	8	5.4	163	6	3.7
Louisiana	187	16	8.6	212	21	9.9	201	13	6.5	179	15	8.4	201	13	6.5
Oklahoma	159	14	8.8	177	16	9.0	300	11	3.7	294	29	9.9	319	18	5.6
Texas	287	24	8.4	304	25	8.2	251	22	8.8	579	37	6.4	508	44	8.7
Montana	98	9	9.2	87	9	10.3	129	20	15.5	144	38	26.4	170	55	32.4
Idaho	37	5	13.5	35	1	2.9	35	1	2.9	50	5	10.0	78	24	30.8
Wyoming	9	----	----	18	----	----	21	2	9.5	22	3	13.6	28	2	7.1
Colorado	204	17	8.3	192	19	9.9	234	24	10.3	322	17	5.3	249	31	12.5
New Mexico	31	1	3.2	25	1	4.0	11	----	----	18	----	----	42	2	4.8
Arizona	17	----	----	19	----	----	27	----	----	16	----	----	7	1	14.3
Utah	88	3	3.4	116	5	4.3	126	5	4.0	142	2	1.4	177	3	1.7
Nevada	11	----	----	5	----	----	19	3	15.8	24	1	4.2	----	----	----
Washington	169	9	5.3	227	11	4.9	227	16	7.1	363	23	6.1	408	36	8.8
Oregon	106	9	8.5	170	10	5.9	174	9	5.2	216	18	8.3	486	32	6.9
California	692	69	10.0	546	19	3.5	628	22	3.5	738	31	4.2	782	47	6.0
United States.	14,795	849	5.7	14,150	679	4.8	15,589	837	5.4	17,588	942	5.4	18,741	1,045	5.6

TABLE 692.—*Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910–1923*—Continued.

State.	1914–15			1915–16			1916–17			1917–18			1918–19		
	Total.	Farmers.		Total.	Farmers.		Total.	Farmers.		Total.	Farmers.		Total.	Farmers.	
		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.
Maine	779	88	11.3	589	115	19.5	775	100	12.9	735	85	11.6	528	77	14.7
New Hampshire	109	6	5.5	62	1	1.6	87	2	2.3	67	3	4.5	51	5	9.8
Vermont	96	7	7.3	118	9	7.6	125	19	15.2	86	6	7.0	67	7	10.4
Massachusetts	1,067	8	.8	1,491	9	.6	1,682	12	.7	1,645	21	1.3	1,565	9	.6
Rhode Island	54	----	----	144	1	.7	89	----	----	112	1	.9	73	1	1.4
Connecticut	224	3	1.3	271	8	3.0	391	19	4.9	278	9	3.2	247	5	2.0
New York	2,397	57	2.4	2,776	46	1.7	3,108	75	2.4	2,998	59	2.0	2,644	57	2.2
New Jersey	344	1	.3	558	7	1.3	625	8	1.3	302	5	1.7	388	6	1.6
Pennsylvania	1,008	32	3.2	1,002	35	3.5	1,021	47	4.6	907	33	4.1	700	26	3.7
Ohio	866	24	2.8	945	44	4.7	924	28	3.0	969	43	4.4	687	15	2.2
Indiana	253	16	6.3	355	22	6.2	322	26	8.1	225	15	6.7	157	14	8.9
Illinois	1,398	44	3.2	1,603	57	3.6	1,709	69	4.0	1,445	46	3.2	1,513	25	1.7
Michigan	520	4	.8	419	9	2.2	538	12	2.2	497	12	2.4	592	10	1.7
Wisconsin	314	6	1.9	416	14	3.4	439	7	1.6	390	10	2.6	397	11	2.8
Minnesota	435	16	3.7	516	19	3.7	644	59	9.2	668	49	7.3	583	16	2.7
Iowa	295	66	22.4	378	82	21.7	360	72	20.0	363	78	21.5	261	40	15.3
Missouri	551	10	1.8	604	20	3.3	598	28	4.7	681	24	3.5	594	31	5.2
North Dakota	190	111	58.4	175	90	51.4	148	60	40.5	165	61	37.0	102	37	36.3
South Dakota	142	33	23.2	90	16	17.8	181	50	27.6	37	17	46.0	23	6	26.1
Nebraska	184	18	9.8	171	23	13.5	216	20	9.3	204	12	5.9	154	8	5.2
Kansas	307	36	11.7	249	26	10.4	244	36	14.8	226	26	11.5	208	18	8.7
Delaware	18	----	----	12	----	----	18	----	----	16	----	----	5	----	----
Maryland	141	6	4.3	146	10	6.9	141	13	9.2	177	19	10.7	109	6	5.5
Dist. Columbia	39	----	----	130	----	----	54	----	----	60	----	----	13	----	----
Virginia	555	21	3.8	696	25	3.6	703	41	5.8	561	37	6.6	419	38	9.1
West Virginia	485	16	3.3	302	14	4.6	293	20	6.8	302	14	4.9	205	16	7.8
North Carolina	118	3	2.5	168	1	.6	117	3	2.6	144	8	5.6	72	3	4.2
South Carolina	156	----	----	184	5	2.7	129	7	5.4	81	2	2.5	60	2	3.3
Georgia	1,481	126	8.5	1,862	310	6.7	1,667	318	19.1	1,456	322	22.1	852	216	25.4
Florida	220	5	2.3	253	4	1.6	202	5	2.5	173	8	4.6	110	10	9.1
Kentucky	579	19	3.3	509	30	5.9	470	19	4.0	476	29	6.1	273	32	11.7
Tennessee	1,165	36	3.1	948	45	4.8	1,059	65	6.1	890	44	4.9	507	22	4.3
Alabama	1,081	72	6.7	861	85	9.9	806	88	10.9	1,544	93	6.0	1,341	68	5.1
Mississippi	92	----	----	101	4	4.0	368	12	3.3	490	13	2.7	130	4	3.1
Arkansas	186	7	3.8	301	20	6.6	319	36	11.3	169	32	18.9	185	20	10.8
Louisiana	213	23	10.8	277	25	9.0	242	29	12.0	173	28	16.2	156	21	13.5
Oklahoma	228	17	7.5	448	36	8.0	452	39	8.6	273	31	11.4	224	13	5.8
Texas	421	50	11.9	876	97	11.1	760	113	14.9	614	95	15.5	539	110	20.4
Montana	200	71	35.5	270	81	30.0	281	90	32.0	198	38	19.2	204	52	26.5
Idaho	67	25	37.3	80	40	50.0	121	27	22.3	70	15	21.4	98	20	20.4
Wyoming	40	8	20.0	22	3	13.6	43	3	7.0	28	3	10.7	25	----	----
Colorado	297	47	15.8	326	38	11.7	363	49	13.5	257	21	8.2	174	19	10.9
New Mexico	34	----	----	37	3	8.1	25	2	8.0	26	4	15.4	22	1	4.5
Arizona	19	2	10.5	25	----	----	22	2	9.1	38	1	2.6	23	----	----
Utah	167	6	3.6	288	14	4.9	242	20	8.3	297	22	7.4	302	9	3.0
Nevada	2	----	----	5	----	----	15	----	----	9	1	11.1	11	1	9.1
Washington	350	27	7.7	461	38	8.2	504	42	8.3	498	50	10.0	341	23	6.7
Oregon	439	31	7.1	422	18	4.3	413	40	9.7	573	32	5.6	381	28	7.4
California	907	42	4.6	989	59	6.0	1,210	74	6.1	975	55	5.6	991	49	4.9
United States	21,233	1,246	5.9	23,931	1,658	6.9	25,265	1,906	7.5	23,462	1,632	7.0	19,301	1,207	6.3

TABLE 692—*Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910–1923*—Continued.

State.	1919-20			1920-21			1921-22			1922-23		
	Total.	Farmers.		Total.	Farmers.		Total.	Farmers.		Total.	Farmers.	
		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.		Number.	Per cent of all cases.
Maine	454	50	11.0	420	62	14.8	431	51	11.8	658	94	14.3
New Hampshire	51	4	7.8	53	3	5.7	123	7	5.7	76	12	15.8
Vermont	133	10	7.5	85	14	16.5	166	21	12.7	100	20	20.0
Massachusetts	1,034	6	.6	728	9	1.2	901	10	1.1	1,592	5	.3
Rhode Island	38	------	------	50	1	2.0	72	1	1.4	166	------	------
Connecticut	190	2	1.1	138	2	1.5	201	2	1.0	399	15	3.8
New York	2,241	49	2.2	2,039	61	3.0	2,076	38	1.8	3,128	96	3.1
New Jersey	336	2	.6	297	5	1.7	277	4	1.4	502	4	.8
Pennsylvania	534	16	3.0	421	25	5.9	571	35	6.1	1,165	48	4.1
Ohio	599	18	3.0	490	23	5.0	680	64	9.4	1,279	156	12.2
Indiana	138	12	8.7	124	16	12.9	245	59	24.1	333	84	25.2
Illinois	1,089	29	2.7	697	11	1.6	1,012	81	8.0	1,714	192	11.2
Michigan	338	4	1.2	220	1	.5	434	11	2.5	909	27	3.0
Wisconsin	314	20	6.4	232	11	4.7	364	32	8.8	696	110	15.8
Minnesota	532	42	7.9	480	57	11.9	651	189	29.0	1,023	291	28.5
Iowa	194	36	18.6	275	75	27.3	704	368	52.3	935	489	52.3
Missouri	514	25	4.9	301	22	7.3	403	61	15.1	560	105	18.8
North Dakota	120	50	38.5	146	93	63.7	302	237	78.5	749	615	82.1
South Dakota	131	18	13.7	76	24	31.6	73	38	52.1	232	148	63.8
Nebraska	118	11	9.3	86	8	9.3	184	60	32.6	259	132	51.0
Kansas	158	31	19.6	211	45	21.3	328	113	34.5	588	225	38.3
Delaware	6	1	16.7	20	------	------	35	3	8.6	29	2	6.9
Maryland	79	3	3.8	84	5	6.0	159	17	10.7	170	37	21.8
Dist. Columbia	32	------	------	35	------	------	35	------	------	59	------	------
Virginia	291	17	5.8	516	24	4.7	726	40	5.5	1,320	87	6.6
West Virginia	183	5	2.7	220	10	4.6	268	12	4.5	328	7	2.1
North Carolina	42	3	7.1	63	2	3.2	154	13	8.4	215	16	7.4
South Carolina	45	1	2.2	58	4	6.9	115	1	.9	248	24	9.8
Georgia	909	129	14.2	1,063	241	22.7	2,344	588	25.1	2,918	772	26.5
Florida	86	10	11.6	111	11	9.9	145	4	2.8	348	14	4.0
Kentucky	241	24	10.0	188	21	11.2	222	43	19.4	587	88	15.0
Tennessee	560	32	5.7	724	24	3.3	1,133	46	4.1	1,600	118	7.4
Alabama	735	49	6.7	1,419	43	3.0	2,461	100	4.1	1,977	181	9.2
Mississippi	57	3	5.3	239	12	5.0	265	12	4.5	462	33	7.1
Arkansas	439	8	1.8	163	17	10.4	266	72	27.1	454	76	16.7
Louisiana	139	17	12.2	114	12	10.5	219	32	14.6	423	129	30.5
Oklahoma	139	13	9.4	128	13	10.2	240	38	15.8	551	81	14.7
Texas	286	57	24.2	383	82	21.4	628	122	19.4	1,208	253	20.9
Montana	178	63	35.4	226	82	36.3	363	215	59.2	611	366	59.9
Idaho	86	12	14.0	80	19	23.8	189	79	46.8	292	160	54.8
Wyoming	21	3	14.3	24	8	33.3	42	12	28.6	56	14	25.0
Colorado	141	18	12.8	212	48	22.6	249	77	30.9	366	118	32.2
New Mexico	18	3	16.7	20	2	10.0	37	3	8.1	17	3	17.7
Arizona	12	------	------	21	1	4.8	40	9	22.5	105	37	35.2
Utah	185	5	2.7	151	17	11.3	177	22	12.4	235	32	13.6
Nevada	1	------	------	11	------	------	21	2	9.5	2	------	------
Washington	300	20	6.7	261	29	11.1	377	49	13.0	727	131	18.0
Oregon	207	7	3.4	407	11	2.7	370	33	8.9	717	110	15.3
California	949	59	6.2	682	57	8.4	1,004	110	11.0	1,150	183	15.9
United States	15,583	997	6.4	15,162	1,363	9.0	22,462	3,236	14.4	34,236	5,940	17.4

Division of Agricultural Finance. Compiled from annual reports of the Attorney General.

FARMERS' INCOMES.

TABLE 693.—*Farmers' incomes: Returns from farming, 1922.*

Item.	United States.	North Atlantic.	South Atlantic.	East North Central.	West North Central.	South Central.	Western.
Number of reports	6,094	648	803	1,274	1,395	1,282	692
Size of farm.....acres	252	148	206	145	339	212	498
Value of farm real estate	$13,586	$8,748	$9,565	$13,986	$19,940	$9,027	$17,672
Value of farm personalty (Jan. 1, 1922)	2,844	3,043	1,857	2,563	3,661	2,153	3,955
Receipts:							
Crop sales	816	981	886	506	684	888	1,296
Sales of livestock	660	352	347	754	1,148	410	617
Sales of livestock products	454	1,193	245	621	379	167	382
Miscellaneous sales	42	92	54	39	24	32	37
Total	1,972	2,618	1,532	1,920	2,235	1,497	2,322
Cash outlay:							
Hired labor	331	524	309	245	280	284	522
Livestock bought	204	153	161	228	321	138	138
Feed bought	175	467	86	176	178	90	159
Fertilizer	57	151	178	41	6	32	9
Seed	43	59	38	40	39	38	54
Taxes	174	146	91	210	211	111	270
Tools and machinery	123	143	82	122	152	81	177
Miscellaneous purchases	150	215	85	149	198	92	181
Total	1,257	1,858	1,030	1,211	1,385	866	1,510
Receipts less expenses	715	760	502	709	850	631	812
Increase in inventory	202	98	121	219	385	104	174
Net result	917	858	623	928	1,235	735	986
Noncash, estimated items, reported for approximately two-thirds the number of farms.							
Value of food and fuel produced and used on the farm	294	273	362	276	287	301	269
Value of family labor, including owner	716	850	504	759	854	477	919
Change in value of real estate during 1922 (—shows decrease)	−52	−16	78	−105	−27	9	−303

Division of Farm Management. Computed from reports of 6,094 individual farms operated by their owners.

TABLE 694.—*Farmers' incomes: Returns to labor and to capital, 1922.*

Item.	United States.	North Atlantic.	South Atlantic.	East North Central.	West North Central.	South Central.	Western.
Net results, as given	$917	$858	$623	$928	$1,235	$735	$986
Add food and fuel [1]	294	273	362	276	287	301	269
Total farm returns	1,211	1,131	985	1,204	1,522	1,036	1,255
Less unpaid labor [2]	$716	$850	$504	$759	$854	$477	$919
Return to capital	495	281	481	445	668	559	336
Return to capital, per cent [3]	3.0	2.4	4.2	2.7	2.8	5.0	1.6
Interest assuming rate of 6 per cent [4]	$986	$707	$685	$993	$1,416	$671	$1,298
Return to all unpaid labor	226	424	300	211	106	365	−43
Return to operator (prorated) [5]	158	334	236	156	70	295	−37
Return to operator (family labor at hired labor rates) [6]	9	244	176	13	−182	273	−170

Division of Farm Management. Computed from reports of 6,094 owner-operators and other information. In computing this table certain arbitrary assumptions are explicitly or implicitly made.

[1] Average of estimates of 4,748 farmers.
[2] Average as estimated by 5,248 farmers.
[3] Based on reported value of farm property January 1, 1922.
[4] Many men recall paying much more than 6 per cent.
[5] Assumes that all unpaid family labor shared the reduced amount according to the amount of its claim established. (1) For the operator as 12 times the monthly wages without board and (2) for the rest of the family, the difference between operator's labor so figured and the reported value of unpaid labor.
[6] The assumption is that the operator bears all the burden of failure to earn common hired labor wages, and attributes such wages to his family before computing his remainder or wages.

TABLE 695.—*Farmers' incomes: Summary of the business of 14 farms operated by the same men for 11 consecutive years, Palmer Township, Washington Co., Ohio, 1912–1922.*

Item.	Year beginning Nov. 1—										
	1911–12	1912–13	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22
Average acres per farm:											
Entire farm	146	143	143	144	148	157	161	170	171	172	170
Waste land	21	21	21	21	21	21	21	22	22	22	22
Woodland not pastured	11	11	13	11	11	12	12	13	13	14	14
Permanent pasture	67	64	66	64	69	76	80	81	87	88	80
Untillable	27	27	25	27	31	33	33	34	36	36	36
Tillable	40	37	41	37	38	43	47	47	51	52	44
Rotation pasture	5	4	3	3	1	1	1	------	4	4	8
Rented out and idle	------	1	------	2	1	2	------	2	------	2	3
Crops	42	42	40	43	45	45	47	52	45	42	43
Corn	10	9	10	11	11	12	11	11	9	10	10
Wheat	10	10	6	10	9	10	11	14	10	9	8
Hay	19	19	20	18	21	19	20	20	21	19	20
Fruit	2	2	3	2	2	2	2	2	3	3	3
Other crops	1	2	1	2	2	2	3	5	2	1	2
Yields per acre:											
Corn (bushels)	40	52	41	37	35	40	20	47	40	44	43
Wheat (bushels)	14	8	18	18	9	14	11	21	12	10	11
Hay (tons)	1.6	1.1	.9	1.2	1.4	1.2	1.1	1.9	1.1	1.2	1.4
Livestock:											
Productive animal units[1]	13.2	14.2	15.4	14.8	15.9	18	17.9	17.9	18.5	17	15.6
Cattle	5.4	6.5	7.7	8.1	9.3	11.8	12	11.8	12	11.3	10.8
Colts	.6	.6	.7	.7	.7	.5	.4	.4	.4	.4	.2
Sheep	4.6	4	2.9	2.1	2.3	2.3	2.4	2.8	2.8	2.7	2.1
Hogs	1.3	1.5	2.4	2.2	1.8	1.6	1.6	1.5	1.8	1.1	1.2
Poultry	1.3	1.6	1.7	1.7	1.8	1.8	1.5	1.4	1.8	1.8	1.3
Receipts per animal unit	$87	$55	$59	$60	$68	$87	$83	$116	$52	$56	$86
Labor, months—total	16.6	18.1	16.7	16.8	17.6	17.7	17.4	17.6	16.7	16.7	18
Regular hired	------	------	------	------	.5	.8	.7	.8	------	------	.6
Extra hired	.6	2.2	.3	.6	.9	.4	.3	.3	.4	.6	1
Family	4	3.9	4.4	4.2	4.2	4.5	4.4	4.5	4.3	4.1	4.4
Operator's	12	12	12	12	12	12	12	12	12	12	12
Capital, total	$5,575	$5,674	$5,908	$5,936	$6,119	$6,689	$7,372	$7,400	$8,084	$7,561	$7,220
Real estate	4,298	4,238	4,278	4,259	4,402	4,820	4,858	5,160	5,450	5,390	5,312
Land	2,725	2,652	2,684	2,642	2,758	2,992	3,024	3,303	3,492	3,364	3,275
Dwelling	814	814	814	843	843	868	871	883	919	948	934
Other buildings	757	772	780	774	801	960	963	976	1,039	1,078	1,103
Working capital	1,279	1,436	1,630	1,677	1,717	1,869	2,514	2,240	2,634	2,171	1,908
Livestock	767	916	1,020	1,079	1,100	1,213	1,667	1,414	1,549	1,204	1,060
Cattle	180	239	345	378	426	484	755	601	762	552	476
Colts	80	82	71	84	81	58	29	28	47	34	54
Sheep	92	135	106	91	107	128	193	202	187	102	99
Hogs	71	79	82	101	75	70	185	130	139	86	56
Poultry	45	52	59	64	66	72	90	76	94	100	91
Work stock	298	328	356	359	343	397	413	375	320	330	284
Machinery	266	297	307	310	326	340	359	385	492	511	511
Feed and supplies	209	186	266	251	248	273	443	394	546	414	289
Cash to run farm	37	37	37	37	43	43	45	47	47	42	48
Value real estate per acre	29	30	30	30	30	31	30	30	31	31	31
Cost of improvements per farm	31	14	34	58	68	9	14	12	80	37	9
Cost of machinery bought per farm	56	37	26	44	43	49	35	151	12	101	30
Receipts, total	822	809	932	893	1,068	1,570	1,493	2,089	1,319	964	1,344
Crops	209	72	147	180	147	179	191	434	132	76	91
Corn	13	4	30	14	16	26	4	20	10	------	14
Wheat	38	6	35	87	21	87	47	337	48	16	12
Hay	88	47	21	29	30	11	52	35	28	22	19
Fruit	58	2	48	30	27	18	63	10	35	33	41
Other crops	12	13	13	20	53	37	25	32	11	5	5
Livestock and products	568	585	693	651	804	1,265	1,156	1,308	950	686	834
Dairy products	32	48	61	84	100	125	97	137	123	88	70
Cattle	131	153	159	170	222	426	−383	459	279	210	248
Colts	44	35	41	14	19	5	9	11	18	23	12
Sheep	71	4	34	25	39	90	26	28	−51	−4	57
Wool	97	78	68	65	68	158	154	186	84	61	114
Hogs	64	106	153	132	160	216	233	157	134	74	98
Poultry	21	37	34	22	36	51	43	52	57	19	35
Eggs	108	124	143	138	159	194	229	278	306	215	200
Increase feed inventory	------	79	------	------	26	37	------	152	------	------	------
Woodlot products	------	1	10	5	2	1	------	4	22	10	1
Rent for buildings and pasture	5	2	1	1	1	2	1	------	4	5	5
Outside work	40	70	81	55	81	82	144	184	198	187	408
Other receipts	------	------	------	1	7	4	1	7	13	------	5
Expenses, total	396	365	382	440	459	584	709	844	817	767	834
Labor	110	111	117	125	137	159	180	244	180	185	223
Hired	19	14	12	22	36	42	41	53	25	33	68
Family	91	97	105	103	101	117	139	171	155	152	155

[1] A productive animal unit in this area equals 1 horse, 1 cow, 5 hogs, 10 sheep, or 100 chickens.

TABLE 695.—*Farmers' incomes: Summary of the business of 14 farms operated by the same men for 11 consecutive years, Palmer Township, Washington Co., Ohio, 1912–1922*—Continued.

Item	Year beginning Nov. 1—										
	1911–12	1912–13	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22
Expenses, total—Continued.											
Machinery	$29	$30	$30	$32	$33	$35	$35	$46	$42	$48	$54
Repairs	4	4	4	4	4	4	4	4	4	5	5
Depreciation	25	26	26	28	29	31	31	42	38	43	49
Dwelling	15	15	15	15	15	15	15	16	16	18	18
Repairs	5	5	5	5	5	5	5	6	6	7	7
Depreciation	10	10	10	10	10	10	10	10	10	11	11
Other buildings	21	20	20	21	21	27	27	28	32	32	32
Repairs	8	7	7	7	7	9	9	10	13	12	12
Depreciation	13	13	13	14	14	18	18	18	19	20	20
Fence repairs	10	9	9	10	10	10	10	12	10	10	10
Feeds purchased	19	23	30	58	72	119	96	127	106	88	106
Seeds purchased	18	23	23	20	23	18	35	44	48	32	35
Fertilizer	40	33	39	40	44	61	71	112	88	66	56
Machine work hired	23	14	10	18	22	21	26	51	34	17	23
Insurance	3	6	6	5	6	7	9	9	13	9	8
Taxes	42	45	46	47	48	53	58	66	99	109	129
Horseshoeing	6	6	5	5	5	6	6	6	8	7	8
Breeding fees	8	6	6	5	5	6	7	6	4	9	6
Veterinary fees	2	2	1	1					4		
Spray materials	4	1	1	1	1	1	1	1	1	4	2
Twine	2	2	2	3	3	6	8	12	5	7	4
Fuel and oil	3	4	4	1	2	3	5	5	21	21	36
Decrease work stock	18	13	2	27	7	30	53	56	34	63	20
Decrease feed inventory	22		14	3			118		42		7
Other expenses	1	2	2	3	5	7	9	23	30	42	57
Farm income	426	444	550	453	609	986	724	1,245	502	197	510
Interest on capital at 5 per cent	279	284	292	297	306	334	368	370	404	378	361
Labor income	147	160	258	156	303	652	356	875	98	−181	149
Operator's labor and management	299	293	289	286	287	298	339	391	376	356	368
Per cent return on capital	2.4	2.6	4.4	2.9	5.3	10.3	5.2	11.5	1.6	−2.1	2.0
Family living from farm								$504	$371	$358	$378

Division of Farm Management.

FOREIGN EXCHANGE.

TABLE 696.—*Foreign exchange: Average rates at New York, 1912–1923.*

ARGENTINE PESOS, PAPER.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1912	42.460	42.500	42.604	42.655	42.526	42.510	42.510	42.510	42.510	42.510	42.478	42.495
1913	42.510	42.578	42.720	42.535	42.470	42.395	42.260	42.110	42.110	42.110	42.110	42.110
1914	42.158	42.522	42.540	42.365	42.230	42.230	42.240	[2]43.465	44.663	43.042	43.428	43.720
1915	43.348	43.332	42.925	42.580	42.005	42.018	42.236	41.385	41.712	42.080	42.212	42.560
1916	42.652	42.858	43.158	43.058	42.525	42.182	41.592	41.402	42.126	42.900	43.240	43.824
1917	44.170	43.900	43.402	42.642	43.262	43.918	43.525	43.104	42.900	43.768	45.600	46.680
1918	44.820	43.895	44.062	44.472	45.192	44.820	44.388	44.413	44.632	44.712	44.828	45.018
1919	44.804	44.748	44.328	44.045	44.100	43.220	42.548	42.138	42.315	42.324	42.945	43.110
1920	43.076	43.108	43.320	42.957	42.485	42.058	40.496	37.657	36.808	35.807	33.650	34.368
1921	34.792	35.078	34.122	32.476	31.585	30.782	28.952	29.284	30.637	32.154	32.329	32.914
1922	33.963	36.334	36.423	35.529	36.260	36.016	36.013	36.117	35.677	35.822	36.180	37.650
1923	37.284	37.055	37.024	36.585	35.939	35.485	34.205	[2]32.762	32.935	32.410	31.304	31.826

EGYPTIAN TALARI.[3]

1912	100.345	100.398	100.310	99.980	100.006	99.992	99.972	100.090	100.042	100.412	99.980	100.005
1913	100.144	99.928	99.845	99.832	99.862		99.662	99.952	100.120	100.244	99.912	99.768
1914	99.965	99.855	99.685	99.828	99.912	99.912	100.158	103.630	103.292	102.552	100.962	100.236
1915	99.582	99.138	98.708	98.372	98.320	97.955	97.738	96.335	96.232	96.144	95.805	96.840
1916	97.505	97.652	97.740	97.770	97.648	97.575	97.592	97.590	97.612	97.698	97.698	97.644
1917	97.605	97.538	97.576	97.670	97.578	97.526	97.606	97.680	97.628	97.572	97.576	98.090
1918	97.585	97.580	97.552	97.598	97.600	97.570	97.560	97.618	97.630	97.675	97.712	97.710
1919	97.726	97.702	96.480	95.525	95.808	94.588	91.395	88.036	85.518	85.560	84.334	78.442
1920	75.864		74.123	80.088	78.934	79.642	78.362	73.498	72.510	70.876	70.565	72.482
1921	76.915	79.482	80.405	80.780	82.390	78.298	75.126	75.128	76.810	79.538	81.428	84.630
1922	86.725	89.163	87.892	89.970	91.120	91.377	91.118	91.955	90.828	91.275	91.558	93.842
1923	95.070	96.730	96.850	95.528	95.382	94.880						

[1] Compiled from International Yearbook of Agricultural Statistics, 1921, page 505, through June, 1921; average of weekly quotations. Federal Reserve Bulletin, July, 1921, to date; average monthly rate of exchange.

[2] Interpolation, no quotation.

[3] International Yearbook of Agricultural Statistics, 1921, page 505, and 1922, page 342.

TABLE 696.—*Foreign exchange: Average rates at New York, 1913–1923*—Contd.

INDIAN RUPEE.[4]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1919	35.650	35.650	35.875	35.650	42.500	42.500	43.000	43.500	45.000	43.000	42.375	45.000
1920	44.125	45.500	47.250	46.500	43.500	40.875	37.875	35.750	33.788	30.625	29.375	27.250
1921	28.574	28.938	26.906	26.100	26.344	25.422	23.059	24.224	26.390	27.419	26.874	27.449
1922	27.810	28.143	27.822	27.810	28.751	28.911	28.891	29.014	28.741	28.842	29.511	30.649
1923	31.726	31.850	31.566	31.346	31.081	30.992	30.859	30.461	30.602	31.063	30.860	31.005

POUND STERLING.[5]

1912	$4.8699	$4.8728	$4.8721	$4.8710	$4.8720	$4.8756	$4.8752	$4.8725	$4.8604	$4.8574	$4.8506	$4.8502
1913	4.8688	4.8746	4.8729		4.8651	4.8670	4.8678	4.8640	4.8568	4.8580	4.8526	4.8535
1914	4.8623	4.8570	4.8628	4.8698	4.8831	4.8849	4.8878	5.0000	4.9812	4.9530	4.9031	4.8715
1915	4.8422	4.8306	4.8018	4.7945	4.7925	4.7755	4.7648	4.7062	4.6912	4.6858	4.6706	4.7205
1916	4.7506	4.7591	4.7641	4.7648	4.7581	4.7579	4.7577	4.7575	4.7574	4.7567	4.7567	4.7479
1917	4.7567	4.7550	4.7544	4.7567	4.7555	4.7544	4.7553	4.7545	4.7548	4.7522	4.7520	4.7517
1918	4.7525	4.7525	4.7525	4.7550	4.7550	4.7538	4.7525	4.7562	4.7550	4.7550	4.7575	4.7575
1919	4.7575	4.7575	4.7000	4.6512	4.6562	4.6125	4.4275	4.2725	4.1800	4.1712	4.0812	3.7688
1920	3.6700	3.3762	3.7712	3.9130	3.8500	3.9475	3.8525	3.6200	3.5125	3.4730	3.4250	3.4912
1921	3.7562	3.8712	3.9150	3.9300	3.9775	3.7725	3.6321	3.6536	3.7240	3.8729	3.9702	4.1561
1922	4.2248	4.3620	4.3757	4.4134	4.4461	4.4519	4.4464	4.4647	4.4307	4.4385	4.4799	4.6098
1923	4.6546	4.6908	4.6957	4.6558	4.6257	4.6147	4.5834	4.5603	4.5422	4.5237	4.3822	4.3602

Division of Statistical and Historical Research.

[4] Federal Reserve Bulletins. January-September, 1919 highest rate for month. October 1919-December 1920, average of high and low quotations for month. January, 1921-June, 1921, average of weekly high and low quotations for month. July, 1921 to date, average rate of exchange.

[5] International Yearbook of Agricultural Statistics, 1921, pages 504 and 498. Federal Reserve Bulletins, July 1921 to date. Sight drafts 1912–1920; cables 1921 to date.

TABLE 697.—*Farmers' organizations handling grain, 1923.*

State.	Total Number reporting.	Membership.		Volume of business.							
		Number reporting.	Members.	Number reporting.	Amount.[1]	Grain handled, thousands of bushels.					
						Number reporting.	Wheat	Rye.	Oats.	Other grains.	Total.
Illinois	392	328	39,318	269	$52,445,000	276	11,075	547	19,373	34,003	64,998
Nebraska	335	247	30,177	185	33,341,000	181	10,802	253	2,169	12,625	25,849
Iowa	325	232	31,295	181	39,459,000	189	1,462	195	18,404	24,300	44,361
South Dakota	323	251	25,901	211	35,246,000	224	24,252	5,958	1,237	4,872	36,319
Kansas	289	217	29,911	160	32,160,000	173	21,233	58	659	2,698	24,648
Minnesota	249	204	31,803	176	25,405,000	177	5,095	3,498	9,916	8,611	27,120
North Dakota	205	148	19,274	112	16,743,000	122	6,674	1,167	4,092	6,359	18,292
Ohio	192	155	24,136	127	20,403,000	127	3,979	66	2,409	3,115	9,569
Missouri	150	119	18,144	90	22,643,000	89	11,149	103	526	2,842	14,620
Indiana	118	91	12,887	73	9,717,000	73	1,562	253	3,018	3,123	7,956
Oklahoma	86	67	17,227	54	10,314,000	58	7,503	4	206	1,235	9,038
Michigan	78	67	14,716	48	8,805,000	48	1,314	295	605	403	2,617
Montana	62	49	5,185	41	6,226,000	39	10,810	152	154	397	11,513
Wisconsin	49	43	7,335	26	2,218,000	21	36	211	343	259	849
Colorado	43	43	6,303	19	4,720,000	17	1,726	73	57	623	2,479
Washington	40	34	5,355	28	7,920,000	28	7,181	46	146	33	7,406
Texas	18	12	4,069	8	2,456,000	7	1,001	------	16	191	1,208
Idaho	15	7	977	7	1,056,000	5	914	------	33	850	1,797
California	13	11	2,523	8	4,725,000	9	2,130	------	66	2,083	4,279
Oregon	9	8	3,628	7	10,473,000	7	3,771	------	12	48	3,831
Wyoming	9	4	328	2	164,000	1	47	24	1	1	73
New Mexico	5	3	148	1	6,000	------	------	------	------	------	------
All others	24	18	2,920	15	2,047,000	11	256	5	78	236	567
United States	3,029	2,358	333,560	1,848	349,199,000	1,862	134,064	12,908	63,530	108,897	319,389

Division of Agricultural Cooperation. Reports from associations to Feb. 5, 1924.

[1] Including sales of supplies to members.

TABLE 698.—*Average weight per carload of freight originating on Class I railroads in the United States, 1920–1923.*

Commodity.	Calendar years.			
	1920	1921	1922	1923
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*
Wheat	40.21	39.89	40.17	40.35
Corn	36.45	38.07	38.38	37.87
Oats	31.20	30.55	30.07	31.03
Flour and meal	30.27	25.63	24.94	25.01
Hay, straw and alfalfa	12.38	12.46	12.35	12.33
Tobacco	12.14	10.92	11.09	10.84
Cotton	12.17	11.57	11.50	11.29
Citrus fruits	16.68	16.22	15.40	15.04
Potatoes	18.77	18.24	18.20	17.87
Horses and mules	11.47	11.39	11.30	11.26
Cattle and calves	11.59	11.62	11.56	11.53
Sheep and goats	9.93	9.75	9.79	9.73
Hogs	9.61	9.51	9.61	9.55
Poultry	11.51	10.95	11.02	11.18
Eggs	11.58	11.18	11.19	11.27
Butter and cheese	12.90	12.18	12.37	12.65
Wool	12.48	12.20	11.63	12.36
Sugar, sirup, glucose and molasses	28.98	27.68	27.54	27.53
Canned goods	24.78	23.13	23.09	22.92
Anthracite coal	48.28	47.53	47.85	48.46
Bituminous coal	49.27	50.45	50.80	51.29
Textiles	13.20	11.82	11.72	11.55
Lumber, timber, box shooks, staves and headings	27.04	26.03	26.31	26.77

Division of Statistical and Historical Research. Compiled from reports of the Interstate Commerce Commission.

TABLE 699.—*Freight tonnage originating on railways in the United States, 1917–1923.*

Commodity.	Calendar years.						
	1917	1918	1919	1920	1921	1922	1923
FARM PRODUCTS.							
Animals and animal products:	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*
Animals, live—							
Horses and mules [1]	17,906	19,263	19,395	936	428	491	603
Cattle and calves [1]				9,809	8,522	9,571	9,403
Sheep and goats [1]				1,344	1,175	1,159	1,159
Hogs [1]				5,421	5,504	5,795	6,947
Packing-house products—							
Fresh meats	2,966	3,714	3,398	2,770	2,577	2,614	3,022
Hides and leather	1,357	1,303	1,371	1,051	972	1,082	1,084
Other packing-house products	2,567	3,510	3,736	2,206	2,094	2,049	2,395
Total packing-house products	6,890	8,527	8,505	6,027	5,643	5,745	6,502
Eggs [1]				536	551	565	595
Butter and cheese [1]				425	434	507	571
Poultry [2]	1,022	1,155	1,322	264	276	292	357
Wool	499	494	547	293	400	360	290
Other animals and products	5,541	6,339	5,794	1,540	1,329	1,750	1,811
Total animal products	31,858	35,778	35,493	26,595	24,263	26,235	28,237
Vegetable products:							
Cotton	3,552	3,552	3,803	3,379	3,191	3,068	2,875
Fruits and vegetables [3]	17,679	18,737	19,726	10,045	9,255	9,694	10,378
Potatoes				4,118	4,639	4,329	4,697

[1] Not separately stated prior to 1920.
[2] Including game and fish prior to 1920.
[3] Including "citrus fruits," "other fresh fruits," "other fresh vegetables" and "dried fruits and tables."

TABLE. 699.—*Freight tonnage originating on railways in the United States, 1917–1923*—Continued.

Commodity.	Calendar years.						
	1917	1918	1919	1920	1921	1922	1923
FARM PRODUCTS—contd.							
Vegetable products—Continued.							
Grain and grain products—	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*
Grain—							
Wheat [1]	46,372	55,881	52,375	23,131	29,039	24,803	23,095
Corn [1]				12,689	17,218	19,275	15,174
Oats [1]				8,615	7,542	7,647	8,296
Other grain [1]				5,669	4,568	5,245	4,738
Grain products—							
Flour and meal	10,065	10,589	11,670	10,952	10,553	10,695	10,482
Other mill products	8,413	8,630	9,079	8,891	7,881	9,001	9,988
Total grain and grain products	64,850	75,100	73,124	69,947	76,801	76,666	71,773
Hay, straw and alfalfa [4]	8,315	8,241	7,483	7,957	5,154	5,722	5,906
Sugar, sirup, glucose and molasses	4,235	4,204	4,934	5,664	4,767	5,092	4,881
Tobacco	1,029	1,160	1,293	1,091	927	884	1,097
Other vegetable products [5]	9,205	9,260	9,604	15,250	15,186	11,866	12,402
Total vegetable products	108,865	120,254	119,967	117,441	119,920	117,811	114,069
Canned goods (food products)				3,074	2,627	3,106	3,440
Total farm products	140,723	156,032	155,460	147,110	146,810	147,152	145,746
OTHER PRODUCTS.							
Products of mines	732,653	734,797	589,951	712,154	511,271	532,399	713,384
Products of forests	100,838	97,256	94,076	100,766	76,419	89,071	115,220
Manufactures [6]	188,796	176,202	163,825	242,189	163,691	211,311	258,655
Merchandise, all L.C.L. freight	101,006	99,057	92,799	53,202	41,992	43,177	44,314
Total tonnage	1,264,016	1,263,344	1,096,111	1,255,421	940,183	1,023,110	1,277,319

Division of Statistical and Historical Research. Compiled from reports of the Interstate Commerce Commission. Class I Roads having annual operating revenues in excess of $1,000,000.

[1] Not separately stated prior to 1920.
[4] Reported as "Hay" prior to 1920.
[5] Including "cottonseed," "vegetable oils" and "other products of agriculture."
[6] Excluding "sugar," "vegetable oils" and "canned goods."

TABLE 700.—*Freight rates, ocean, wheat per bushel to the United Kingdom and the Continent from the United States, Canada, Argentina, India, and Australia for 1913, 1922, and 1923.*

Month.	United States.										Canada.		Argentina.			India.			Australia.		
	North Atlantic ports.[1]			New York.[2]			New Orleans.		North Pacific ports.[3]												
	1913	1922	1923	1913	1922	1923	1922	1923	1922	1923	1922	1923	1913	1922	1923	1913	1922	1923	1913	1922	1923
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Jan.	10	11	9	9	9	6	12	9	20	22	11	10	14	19	15	12	13	16	24	28	27
Feb.	10	12	7	6	10	5	13	9	20	21	13	9	16	18	12	12	13	15	22	30	24
Mar.	9	12	7	6	10	5	13	9	26	22	11	9	14	15	13	12	14	17	22	29	23
Apr.	8	10	9	6	5	6	11	9	26	23	10	10	12	15	17	11	12	18	20	29	24
May	8	10	8	7	5	5	11	9	22	23	10	9	11	16	19	11	11	18	20	27	22
June	7	8	7	5	5	3	11	9	22	23	9	9	8	14	14	11	10	16	20	25	20
July	8	8	8	5	6	4	9	9	22	22	8	8	9	12	12	12	10	16	20	22	20
Aug.	9	7	7	5	5	4	9	8	21	22	7	7	10	13	12	12	11	18	19	21	20
Sept.	8	7	7	4	4	5	9	8	20	21	8	8	8	12	12	11	12	14	19	21	21
Oct.	7	8	8	5	5	6	8	8	21	22	8	9	6	14	10	10	14	15	21	25	22
Nov.	7	7	9	5	8	8	11	8	22	22	11	10	6	15	11	11	16	15	21	28	23
Dec.	6	10	9	4	8	8	[4]9	8	23	22	11	9	6	16	12	10	17	15	20	28	23
Average	8	9	8	6	7	5	10	9	22	22	10	9	10	15	13	11	13	16	21	26	22

Division of Statistical and Historical Research. Compiled from Reports of the International Institute of Agriculture, except as otherwise indicated. The above rates were originally quoted in shillings; conversions made on the basis of the average monthly rate of exchange, except in 1913, when exchange was at par.

[1] Average of principal North Atlantic ports, including New York.
[2] New York to Liverpool.
[3] Average of principal North Pacific ports.
[4] From U. S. Shipping Board.

TABLE 701.—*Freight rates on wheat, in effect September, 1923.*

From—	To—	Rate per 100 pounds.	From—	To—	Rate per 100 pounds.
		Cents.			*Cents.*
Withrow, Wash	Wenatchee, Wash	16.0	Beloit, Kans	Kansas City, Mo	18.0
Do	Tacoma, Wash	25.0	Brewster, Kans	do	20.5
Do	Spokane, Wash	28.0	Abilene, Kans	do	17.5
Harrington, Wash	do	7.0	Great Bend, Kans	do	19.5
Do	Seattle, Wash	24.0	McPherson, Kans	do	19.0
Colfax, Wash	do	24.0	Hutchinson, Kans	Minneapolis, Minn	36.5
Do	Portland, Oreg	24.0	Do	Kansas City, Mo	19.0
Pomeroy, Wash	do	23.0	Do	New Orleans, La	46.5
Pendleton, Oreg	do	18.5	Do	Galveston, Tex	49.0
Marion, Oreg	do	17.0	Bucklin, Kans	Minneapolis, Minn	37.5
Kingdon, Calif	San Francisco, Calif	10.0	Do	Kansas City, Mo	20.0
Moscow, Idaho	Seattle, Wash	24.0	Harper, Kans	do	19.0
Caldwell, Idaho	do	34.0	Galena, Kans	do	13.5
Twin Falls, Idaho	Portland, Oreg	44.0	Enid, Okla	do	23.5
Idaho Falls, Idaho	do	44.0	Do	New Orleans, La	43.5
Bozeman, Mont	Seattle, Wash	38.5	Do	Galveston, Tex	43.0
Do	Portland, Oreg	38.5	Do	Fort Worth, Tex	34.0
Scobey, Mont	Duluth, Minn	37.5	Cordell, Okla	Oklahoma City, Okla.	19.0
Do	Minneapolis, Minn	37.5			
Wheelock, N. Dak	Duluth, Minn	27.0	Amarillo, Tex	Fort Worth, Tex	28.0
Do	Minneapolis, Minn	27.0	Do	Galveston, Tex	28.0
Wales, N. Dak	Duluth, Minn	19.5	Osakis, Minn	Duluth, Minn	14.0
Do	Minneapolis, Minn	19.5	Do	Minneapolis, Minn	12.5
Leeds, N. Dak	Duluth, Minn	20.5	Winterset, Iowa	Chicago, Ill	20.5
Do	Minneapolis, Minn	20.5	Do	St. Louis, Mo	29.5
Adams, N. Dak	Duluth, Minn	19.5	Marshall, Mo	do	17.5
Do	Minneapolis, Minn	19.5	Golden City, Mo	do	20.5
Leal, N. Dak	Duluth, Minn	20.0	Do	Springfield, Mo	10.5
Do	Minneapolis, Minn	20.0	La Prairie, Ill	St. Louis, Mo	11.5
Makoti, N. Dak	Duluth, Minn	25.5	Lincoln, Ill	Chicago, Ill	12.5
Do	Minneapolis, Minn	25.5	Jerseyville, Ill	do	14.5
Dickinson, N. Dak	Duluth, Minn	28.0	Do	Peoria, Ill	11.5
Do	Minneapolis, Minn	28.0	Do	St. Louis, Mo	9.5
Groton, S. Dak	do	21.0	Belleville, Ill	do	9.5
Wessington, S. Dak	do	21.5	Carmi, Ill	Chicago, Ill	20.5
Do	Sioux City, Iowa	20.5	Do	St. Louis, Mo	14.5
Do	Milwaukee, Wis	33.5	Schoolcraft, Mich	Chicago, Ill	15.5
Chappell, Nebr	Omaha, Nebr	24.5	Shelbyville, Ind	Indianapolis, Ind	9.0
Do	Kansas City, Mo	31.0	Do	Chicago, Ill	17.5
Exeter, Nebr	Omaha, Nebr	16.5	Fostoria, Ohio	New York, N. Y	28.5
Do	Kansas City, Mo	19.0	Do	Baltimore, Md	25.5
Beaver City, Nebr	Omaha, Nebr	21.0	Orrville, Ohio	New York, N. Y	28.5
Do	Kansas City, Mo	21.0	Lancaster, Pa	Philadelphia, Pa	11.5
Beatrice, Nebr	St. Louis, Mo	28.0	Do	Baltimore, Md	15.5
Do	Kansas City, Mo	17.0	Do	New York, N. Y	19.0
Phillipsburg, Kans	do	19.5	Hagerstown, Md	do	24.0
Marysville, Kans	do	14.5	Do	Baltimore, Md	20.5
			Staunton, Va	do	22.5

Division of Statistical and Historical Research. Supplied by Bureau of Railway Economics.

TABLE 702.—*Domestic freight rates on oats effective January 1, 1924.*

From—	To—	Rate per 100 pounds.	From—	To—	Rate per 100 pounds.
		Cents.			*Cents.*
Towanda, Ill	Chicago, Ill	11.5	Jefferson, Iowa	Chicago, Ill	19.0
Barnes, Ill	do	11.5	Chickasha, Okla	Kansas City, Mo	28.0
Grand Ridge, Ill	do	8.0	Do	Galveston, Tex	35.0
Rochelle, Ill	do	10.0	Greenville, Ohio	Chicago, Ill	15.5
Paris, Ill	do	15.0	Gibson City, Ill	do	12.0
Isabel, Ill	do	13.0	Otterbein, Ind	do	13.0
Rochelle, Ill	St. Louis, Mo	12.5	Do	Cincinnati, Ohio	15.5
Paris, Ill	do	12.5	Hobarton, Iowa	Chicago, Ill	20.5
Isabel, Ill	do	11.5	Whittemore, Iowa	do	20.5
Oswego, Kans	Fort Worth, Tex	37.5	Algona, Iowa	do	20.5
Topeka, Kans	do	41.5	Lansing, Mich	do	17.5
Oswego, Kans	Houston, Tex	43.0	Morris, Mich	do	23.0
Topeka, Kans	do	46.5	Cedar Bluffs, Nebr	do	25.0
Rolfe, Iowa	Chicago, Ill	20.5	Wales, N. Dak	Duluth, Minn	17.5
Garrison, Iowa	do	17.5	Do	Minneapolis, Minn	17.5
Belle Plain, Iowa	do	17.5	Flandreau, S. Dak	Chicago, Ill	25.0
Hawarden, Iowa	do	24.0	Colman, S. Dak	do	26.0
Blanden, Iowa	do	20.5	La Crosse, Wis	do	16.0
Alton, Iowa	do	22.0			

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.

TABLE 703.—*Domestic freight rates on corn effective January 1, 1924.*

From—	To—	Rate per 100 pounds.	From—	To—	Rate per 100 pounds.
		Cents.			*Cents.*
Towanda, Ill	Chicago, Ill	11. 5	Topeka, Kans	Houston, Tex	46. 5
Barnes, Ill	do	11. 5	Oswego, Kans	do	43. 0
Grand Ridge, Ill	do	8. 0	Craig, Mo	St. Joseph, Mo	8. 5
Fairbury, Ill	do	11. 5	Rolfe, Iowa	Chicago, Ill	20. 5
Odell, Ill	do	10. 0	Garrison, Iowa	do	17. 5
Princeville, Ill	do	11. 5	Belle Plain, Iowa	do	17. 5
Rochelle, Ill	do	10. 0	Hawarden, Iowa	do	24. 0
Easton, Ill	do	12. 5	Blanden, Iowa	do	20. 5
Paris, Ill	do	15. 0	Panama, Iowa	do	20. 5
Isabel, Ill	do	13. 0	Elk Horn, Iowa	do	20. 5
Rochelle, Ill	St. Louis, Mo	12. 5	Chatsworth, Iowa	do	24. 0
Easton, Ill	do	11. 5	Alton, Iowa	do	22. 0
Paris, Ill	do	12. 5	Jefferson, Iowa	do	19. 0
Isabel, Ill	do	11. 5	Beaver City, Nebr	Omaha, Nebr	19. 0
Remington, Ind	Chicago, Ill	13. 0	North Bend, Nebr	do	10. 0
Fort Wayne, Ind	do	14. 5	Chickasha, Okla	Kansas City, Mo	28. 0
Lafayette, Ind	do	14. 5	Do	Galveston, Tex	35. 0
Remington, Ind	Indianapolis, Ind	13. 0	Lancaster, Pa	Philadelphia, Pa	11. 5
Fort Wayne, Ind	do	13. 0	Lancaster, Pa	Baltimore, Md	15. 5
Lafayette, Ind	do	11. 5	Franklin, Tenn	Chattanooga, Tenn	27. 0
Remington, Ind	Cincinnati, Ohio	17. 5	Union City, Tenn	do	29. 5
Fort Wayne, Ind	do	15. 5	Freeman, S. Dak	Chicago, Ill	27. 5
Lafayette, Ind	do	14. 0	Tripp, S. Dak	do	28. 5
Topeka, Kans	Fort Worth, Tex	41. 5	Greenville, Ohio	do	15. 5
Oswego, Kans	do	37. 5			

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.

TABLE 704.—*Freight rates: Wool in grease, per 100 pounds, 1913 and 1923.*

Shipping point.	Destination.					
	Boston.		Chicago.		Philadelphia.	
	1913	1923	1913	1923	1913	1923
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Phoenix, Ariz	175	261. 5	153	229. 5	169	255
Tucson, Ariz	175	263	[1] 175	[1] 236. 5	171	254
Prescott, Ariz	164	244. 5	142	213	158	264. 5
Flagstaff, Ariz	158	235. 5	136	204	152	229
Kingman, Ariz	169	252. 5	147	221	163	246
Albuquerque, N. Mex	134	199. 5	112	170	128	193
Gallup, N. Mex	144	214. 5	122	183	138	208. 5
Salt Lake City, Utah	157	236	139	194. 5	151	229
Las Cruces, N. Mex	149	222. 5	127	193	143	216
Denver, Colo	132	185	97	[1] 129. 5	126	178
Las Vegas, Nev	125	190	103	156. 5	119	183. 5
Cheyenne, Wyo	132	185	97	[1] 129. 5	126	178
Billings, Mont	132	203	107. 5	16½ .5 42	125	195

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.

[1] Class rate.

TABLE 705.—*Freight rates per 100 pounds on specified agricultural products, 1913 and 1923.*

ORANGES

Shipping point.	Destination.																	
	New York.		Chicago.		Pittsburgh.		Cincinnati.		Baltimore.		Kansas City.		Detroit.		Boston.		St. Louis.	
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Phoenix, Ariz	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
Redlands, Calif	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
Grand Bay, Ala.[1]	70	105	57		60		55		70	101	75	113	60		75	113	50	
Grand Bay, Ala.[2]				43.5		46.5		37.5						45.5				39.5
Orlando, Fla	61	92	68	102	67	101	61	86	58	87	77	115.5	68	102	66	99	65	97.5

GRAPEFRUIT.

Phoenix and Mesa, Ariz	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
East Highland, Calif	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
Sanford, Fla	60	90	67	101	66	99	60	84.5	57	86	76	114	67	101	65	97.5	64	96

GRAPES.

Phoenix, Ariz	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
Fresno and Lodi, Calif	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173

WATERMELONS.

Phoenix and Mesa, Ariz	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
Heber, Calif	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
Webb, Ala	48.1	68	45	63.5	43.5	66.5	30	42.5	42.1	63	48	69.5	44	62.5	58.1	87	36.5	54.5
Thomasville, Ga	45.5	68.5	44	63.5	42.5	65	29	41	39.5	59.5	47	68	43	62.5	55.5	83.5	35.5	53.5
Ocala, Fla	47.8	72	49.8	68.5	48.3	74	34.8	49.5	41.8	63	52.8	76.5	48.8	62.5	57.8	87	41.3	62.5
Estill, S. C	34.5	52	50.5	60	38.5	57.5	35.5	50	28.5	43	53.5	77	49.5	59	44.5	66.5	42	63

[1] Combination on New Orleans.

[2] Rate per crate or box.

TABLE 105.—Freight rates per 100 pounds on specified agricultural products, 1913 and 1923—Continued.

CANTALOUPES.

Shipping point	Destination.																	
	New York.		Chicago.		Pittsburgh.		Cincinnati.		Baltimore.		Kansas City.		Detroit.		Boston.		St. Louis.	
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
Decker, Ind.	*Cents.* *36.5*	*Cents.* *69.5*	*Cents.* 17	*Cents.* *89*	*Cents.* *19.5*	*Cents.* *53*	*Cents.* 17	*Cents.* *36.5*	*Cents.* *33.5*	*Cents.* *66.5*	*Cents.* *25*	*Cents.* *56.5*	*Cents.* 21	*Cents.* *46*	*Cents.* *40.5*	*Cents.* *73.5*	*Cents.* *16.5*	*Cents.* *33.5*
La Junta and Rocky Ford, Colo.	81	124	46	70	63.5	97	56	85	78	120	35	53.5	59	89.5	85	130	41	62.5
Stockton and Turlock, Calif.	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
Phoenix, Glendale, and Mesa, Ariz.	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146

PLUMS.

Phoenix, Ariz.	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
Los Angeles, Calif.	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173	115	173
Wenatchee, Wash.	115	173	125	187.5	125	187.5	125	187.5	125	187.5	125	169	125	187.5	125	187.5	125	187.5

LETTUCE.

Phoenix and Glendale, Ariz.	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
Los Angeles and Heber, Calif.	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
San Benito, Tex.	96	164	57	102	81.5	152.5	72.5	133.5	93	159	50	91	76.5	141	100	169.5	50	91
Winter Garden, Fla.[1]	51	76	58	74	49	73	47	58.5	48	71	64	93	49.25	77	57	85	44.25	66

[1] Rate per crate or box.

COTTON (COMPRESSED.)

Shipping point.	Destination.																					
	New Orleans.		Galveston.		Houston.		Charlotte.		Spartanburg.		Savannah.		Chattanooga.		New York.		Boston.		Montreal.		Manchester.	
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Phoenix, Ariz	[1] 95	126	[1] 95	126	[1] 95	126	[1] 135	155	[1] 135	155	[1] 120	196	[1] 127	154	[1] 140	155	[1] 145	169	[1] 140	155	[1] 145	155
Calexico, Calif	[1] 95	126	[1] 95	126	[1] 95	126	[1] 135	160	[1] 135	160	[1] 120	196	[1] 127	154	[1] 140	164	[1] 145	169	[1] 140	161.5	[1] 145	169
Houston, Tex	18	38	18	25	----	----	58	82	58	82	43	67.5	45	67.5	63	92	68	98	63	92	68	98
Memphis, Tenn	17	58.5	38	94	38	94	37	57.5	37	57.5	27	88	27	46	42.5	114.5	47.5	120.5	40.5	112.5	47.5	120.5
Little Rock, Ark	42	69	50	72	44	72	64	85.5	64	85.5	51.5	79	54	77	65	105.5	70	111.5	63	103	70	111.5

ALFALFA.

Shipping point.	Destination.																					
	Los Angeles.		Denver.		Salt Lake City.		Fort Worth.		Kansas City.		Omaha.		Chicago.		St. Louis.		New York.		Philadelphia.			
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923		
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Phoenix, Ariz	30	42	*70*	*98.5*	70	98.5	*76*	67	*83*	100	*83*	100	*94*	114.5	*91*	107.5	100	150	100	150		
El Paso, Tex	*83*	*117*	51	76.5	107	133	21	37	43.5	76.5	51.5	80	53.5	82	48.5	76.5	83.5	138.5	81.5	136.5		
Bakersfield, Calif	*19*	*27*	*83*	*117*	*75*	85.5	*90*	*135*	*95*	*142.5*	*95*	*142.5*	100	146	100	146	100	150	100	150		
Denver, Colo	60	76	----	----	*56*	56.5	36	56	25	38.5	25	38.5	35	54.5	30	46.5	65	111	63	109		
Las Vegas, N. Mex	60	76	28	41	81	93.5	36	53	35	51.5	*71*	*106*	45	66.5	40	59	75	123	73	121		
Fallon, Nev	42.5	54	*73*	70.5	*56.5*	39	*79*	126.5	*85*	73	*85*	73	*97*	102	*94*	84	100	148.5	100	146.5		

HAY, OTHER THAN ALFALFA.

Phoenix, Ariz	30	42	*70*	*98.5*	70	98.5	*76*	*114*	*83*	*124.5*	*83*	*124.5*	*94*	*141*	*91*	*137*	100	150	100	150
El Paso, Tex	*83*	*117*	*58*	76.5	*114*	133	*21*	37	*63*	76.5	*67*	80	*70*	82	*63*	76.5	*98*	138.5	*96*	136.5
Bakersfield, Calif	*19*	*27*	*83*	*117*	*75*	85.5	90	*135*	*95*	*142.5*	*95*	*142.5*	100	146	100	146	100	150	100	150
Denver, Colo	60	76	----	----	*56*	56.5	36	56	25	40	25	40	35	54.5	30	47	65	111	63	109
Las Vegas, N. Mex	60	76	28	41	81	93.5	36	53	35	51.5	*71*	*106*	45	66.5	40	59	75	123	73	121
Fallon, Nev	42.5	54	*73*	70.5	56.5	39	*79*	126.5	*85*	73	*85*	73	*97*	102	*94*	84	100	148.5	100	146.5

Figures printed in italics are for "class rate."

[1] Rate includes 10 cents per hundredweight for compressing.

TABLE 705.—*Freight rates per 100 pounds on specified agricultural products, 1913 and 1923*—Continued.

COTTONSEED OIL.

Shipping point.	Destination.																			
	Boston.		New York.		Philadelphia.		Milwaukee.		Chicago.		St. Louis.		Kansas City.		San Francisco.		Indianapolis.		Billings.	
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Phoenix, Ariz.	*167*	135	*167*	135	*167*	135	*147*	75	*147*	75	*143*	75	*133*	75	*93*	75	*168*	75	*180*	131.5
Calexico, Calif.	*190*	135	*190*	135	*190*	135	*175*	75	*175*	75	*168*	75	*160*	75	*77.5*	75	*180*	75	*175*	131.5
Houston, Tex.	57	87.5	55	87.5	53	76.5	42	64	41	62.5	35	53.5	35	53.5	90	135	46	70	125	182
Memphis, Tenn.	34	51	32	48	30	45	23	35	21	32.5	15	23	20	32.5	90	150	19.5	29.5	111	166
Little Rock, Ark.	47	71.5	45	68.5	43	65.5	26	39.5	24	36.5	18	27.5	21	32.5	90	150	29.5	50	111	158
COTTONSEED OIL CAKE.																				
Phoenix, Ariz.	*138*	113	*138*	113	*138*	113	*118*	90	*118*	90	*114*	90	*104*	90	50	56.5	*123*	113	*135*	131.5
Calexico, Calif.	*152*	113	*152*	113	*152*	113	*140*	90	*140*	90	*135*	90	*123*	90	36.5	48.5	*145*	113	*156*	131.5
Houston, Tex.	47.5	72.5	45.5	70	43.5	66.5	36	55	36	55	30	45.5	25	38.5	60	97.5	34	53.5	84.5	120
Memphis, Tenn.	28.5	44.5	26.5	41.5	24.5	38.5	18	27	16	24	10	15	17	26	60	105	16	24	76.5	120
Little Rock, Ark.	35.5	56	34.5	51.5	31.5	48.5	24	36.5	20	30.5	13	20.5	17	26	60	105	23	35	84.5	120
COTTONSEED MEAL.																				
Phoenix, Ariz.	*138*	113	*138*	113	*138*	113	*118*	90	*118*	90	*114*	90	*104*	90	50	56.5	*123*	113	*135*	131.5
Calexico, Calif.	*152*	113	*152*	113	*152*	113	*140*	90	*140*	90	*135*	90	*123*	90	36.5	48.5	*145*	113	*156*	131.5
Houston, Tex.	47.5	72.5	45.5	70	43.5	66.5	36	55	36	55	30	45.5	25	38.5	60	97.5	34	53.5	98	120
Memphis, Tenn.	28.5	44.5	26.5	41.5	24.5	38.5	18	27	16	24	10	15	17	26	60	105	15	23	76.5	120
Little Rock, Ark.	35.5	55	33.5	51.5	31.5	48.5	22	36.5	20	30.5	13	20.5	17	26	60	105	23	35	89	120

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.
Figures printed in italics are for "class rate."

TABLE 796.—*Freight rates per 100 pounds on ordinary livestock in effect January 1, 1924.*

CATTLE.

From—	To—	Rate.	From—	To—	Rate.
		Cents.			*Cents.*
Battle Creek, Iowa	Chicago, Ill	36.0	Rifle, Colo	Kansas City, Mo	50.0
Hawarden, Iowa	do	38.0	Falls City, Nebr	do	14.5
Lanark, Ill	do	16.0	Las Vegas, N. Mex	do	66.0
Sidell, Ill	do	24.0	Alliance, Nebr	do	41.5
Browntown, Wis	do	19.0	Valentine, Nebr	Omaha, Nebr	28.5
Monroe, Wis	do	19.0	Harlan, Iowa	do	19.5
Kasson, Minn	do	35.0	McClelland, Iowa	do	11.5
Walnut Grove, Minn.	do	41.0	Bellefourche, S. Dak	do	47.0
			Beresford, S. Dak	do	27.0
Divide, Mont	do	86.5	Mexico, Mo	East St. Louis, Mo	18.5
Miles City, Mont	do	59.0	Braymer, Mo	do	36.0
Carrollton, Mo	do	35.0	Tarkio, Mo	do	29.5
Mexico, Mo	do	29.5	Carrollton, Ill	do	18.0
Braymer, Mo	do	36.0	Walnut Grove, Minn.	Sioux City, Iowa	29.0
Bazaar, Kans	Kansas City, Mo	19.0			
Lebanon, Kans	do	23.0	Battle Creek, Iowa	do	14.0
Alma, Kans	do	17.0	Hawarden, Iowa	do	12.0
Mexico, Mo	do	26.0	Bloomfield, Nebr	do	19.0
Carrollton, Mo	do	20.5	Kasson, Minn	St. Paul, Minn	22.5
Braymer, Mo	do	14.0	Walnut Grove, Minn.	do	23.0
San Angelo, Tex	do	51.0			
Hereford, Tex	do	47.0	Forbes, N. Dak	do	36.5
Fort Collins, Colo	do	46.5	Pueblo, Colo	Denver, Colo	15.5
Pueblo, Colo	do	46.5	Fort Collins, Colo	do	15.5
			Las Vegas, N. Mex	do	46.0

SWINE.

From—	To—	Rate.		From—	To—	Rate.	
		Single-deck cars.	Double-deck cars.			Single-deck cars.	Double-deck cars.
		Cents.	*Cents.*			*Cents.*	*Cents.*
Washington, Iowa	Chicago, Ill	35.0	35.0	Red Cloud, Nebr	Kansas City, Mo.	28.0	28.0
Holstein, Iowa	do	35.0	35.0	Amarillo, Tex			
Fairfield, Iowa	do	35.0	35.0	Madison, Nebr	do	56.0	56.0
Remsen, Iowa	do	35.0	35.0	Clarkson, Nebr	Omaha, Nebr	25.0	(1)
Waukon, Iowa	do	35.0	35.0	Holstein, Iowa	do	25.0	(1)
Lanark, Ill	do	20.5	20.5	Schleswig, Iowa	do	17.0	17.0
Lesueur Center, Minn.	do	36.5	36.5	Walnut, Iowa	do	17.0	17.0
				Yankton, S. Dak	do	17.0	17.0
Mabel, Minn	do	36.5	36.5	Kimball, S. Dak	do	45.0	45.0
Browntown, Wis	do	29.5	29.5	Wessington, S. Dak	do	45.0	45.0
Lancaster, Wis	do	29.5	29.5		Sioux City, Iowa.	36.0	36.0
Crawfordsville, Ind	do	27.5	24.0	Kimball, S. Dak			
Wessington, S. Dak	do	46.0	40.0	Remsen, Iowa	do	36.0	36.0
Beresford, S. Dak	do	46.0	40.0	Hartley, Iowa	do	22.5	22.5
Wyaconda, Mo	E. St. Louis, Ill.	46.0	41.0	Laurens, Iowa	do	22.5	22.5
				Wausa, Nebr	do	22.5	22.5
Braymer, Mo	do	46.0	41.0	Wakefield, Nebr	do	17.0	17.0
Jerseyville, Ill	do	22.0	22.0	Porter, Minn	do	17.0	17.0
Rushville, Ill	do	22.0	22.0	Rushville, Ind	do	33.5	(1)
Washington, Iowa	do	26.0	26.0		Indianapolis, Ind.	18.5	16.0
Fairfield, Iowa	do	26.0	26.0	Crawfordsville, Ind	do	18.5	16.0
Hardin, Mo	Kansas City, Mo.	14.5	12.0	Charleston, Ill	do	25.5	22.0
				Mechanicsville, Iowa.	Boston, Mass	83.5	77.0
Richmond, Mo	do	14.5	12.0	Lesueur Center, Minn.	St. Paul, Minn.	17.5	17.5
Belleville, Kans	do	12.5	12.5	Mabel, Minn			
Wellsville, Kans	do	12.5	12.5	Hutchinson, Minn	do	17.5	17.5
Wilsea, Iowa	do	28.0	28.0	Wessington, Minn	do	17.5	17.5
Osceola, Iowa	do	28.0	28.0		do	38.5	33.5
Walnut, Iowa	do	28.0	28.0				
Fairfield, Iowa	do	28.0	28.0				

[1] No rates in force.

TABLE 706.—*Freight rates per 100 pounds on ordinary livestock in effect January 1, 1924*—Continued.

SHEEP.

From—	To—	Rate.		From—	To—	Rate.	
		Single-deck cars.	Double-deck cars.			Single-deck cars.	Double-deck cars.
		Cents.	*Cents.*			*Cents.*	*Cents.*
Ellis, Ill	Chicago, Ill	19.0	19.0	Lamar, Colo	Omaha, Nebr	70.5	99.5
Montgomery, Ill	do	16.0	16.0	Idaho Falls, Idaho	do	75.0	75.0
Idaho Falls, Idaho	do	93.0	93.0	Caldwell, Idaho	do	89.0	89.0
Caldwell, Idaho	do	110.0	110.0	Mountain Home, Idaho.	do	86.5	86.5
Mountain Home, Idaho.	do	107.0	107.0	Greenfield, Iowa	do	29.5	18.5
Mitchell, Nebr	do	69.0	57.0	Corning, Iowa	do	24.5	16.0
Humboldt, Nebr	do	46.5	42.0	Heber, Utah	do	71.5	71.5
Fort Collins, Colo	do	95.5	63.0	Colton, Utah	do	68.5	68.5
Earlham, Iowa	do	36.5	34.0	Big Timber, Mont	do	68.5	68.5
Hansell, Iowa	do	37.0	37.0	Billings, Mont	do	54.5	54.5
Miles City, Mont	do	66.0	66.0	Fort Collins, Colo	Kansas City Mo.	66.5	50.0
Billings, Mont	do	79.0	79.0	Lawrence, Kans	do	18.5	10.0
Columbus, Wis	do	23.0	23.0	Larned, Kans	do	47.5	30.5
Evansville, Wis	do	22.0	22.0	Hutchinson, Kans	do	41.0	27.5
Heppner, Oreg	do	123.0	123.0	Heber, Utah	do	71.5	71.5
Baker, Oreg	do	123.0	123.0	Colton, Utah	do	68.5	68.5
Ogden, Utah	do	93.0	93.0	San Angelo, Tex	do	66.5	65.0
Ellensburg, Wash	do	123.0	123.0	Fort Collins, Colo	Denver, Colo	18.5	15.5
Humboldt, Nebr	Omaha, Nebr	22.5	14.5	Las Animas, Colo	do	40.0	25.0
Mitchell, Nebr	do	50.0	43.0				
Fort Collins, Colo	do	66.5	50.0				

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TABLE 707.—*Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1, 1925.*

BEEF CATTLE.

From—	To—	Freight.[1]		Express in crates.[2]
		Loose.	In crates.	
		Dollars.	*Dollars.*	*Dollars.*
Denver, Colo	Reno, Nev	2.95		8.24
Do	Miles City, Mont	3.015		6.10
Do	San Francisco, Calif	3.66		9.49
Do	Laramie, Wyo	1.05		2.49
Do	Chehalis, Wash	4.065		9.90
Do	Rogue River, Oreg	4.065		10.32
Do	Salt Lake City, Utah	2.165		5.27
Springfield, Ill	Wapello, Iowa	.71	1.065	1.94
Do	Memphis, Tenn	1.10	3.30	2.56
Do	Sheridan, Mo	1.06	1.59	2.91
Do	Cedar Rapids, Iowa	.79	1.185	1.94
Indianapolis, Ind	Lexington, Ky	1.06		1.66
Do	Richmond, Va	1.29	3.87	3.53
Do	Springfield, Ill	.725	2.175	1.59
Do	Kansas City, Mo	1.61		3.11
Do	Jackson, Miss	2.14		3.67
Iowa City, Iowa	Kansas City, Mo	.915		2.63
Do	Chicago, Ill	.790		1.94
Do	Denver, Colo	2.325		5.27
Do	Oklahoma City, Okla	1.975		4.78
Do	Little Rock, Ark	2.03		4.02
Kansas City, Mo	Jackson, Miss	2.235		4.50
Do	Oklahoma City, Okla	1.445		3.26
Do	Denver, Colo	1.75		4.57
Do	Roy, N. Mex	2.36		4.99
Do	Indianapolis, Ind	1.69		3.11
Do	Cambridge, Nebr	1.40		3.26
Cambridge, Nebr	Kansas City, Mo	1.40		3.26
Do	Indianapolis, Ind	2.755		4.78
Do	Denver, Colo	1.295		2.63
Do	Colorado Springs, Colo	1.61		2.91
Do	Helena, Mont	3.15		7.13
Mansfield, Ohio	Reading, Pa	1.06	3.18	2.70
Do	Mt. Pleasant, Iowa	1.20	3.60	2.70
Amarillo, Tex	Tucumcari, N. Mex	1.385		2.08
Do	Roswell, N. Mex	1.615		2.36
Do	Phoenix, Ariz	3.450		6.38

See footnotes end of tables.

TABLE 707.—*Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1, 1923*—Continued.

DAIRY CATTLE.

From—	To—	Freight.[1]		Express in crates.[2]
		Loose.	In crates.	
		Dollars.	*Dollars.*	*Dollars.*
Westerville, Ohio	Sheridan, Ind	.745	2.235	1.80
Do	Lee's Summit, Mo	1.78	5.34	3.94
Do	Augusta, Ky	.615	1.845	1.94
Do	Osawatomie, Kans	2.04	6.12	3.94
Columbus, Ohio	Morristown, N. J	1.095	3.285	2.84
Do	Toronto, Canada	.975	2.925	3.60
Do	Vancouver, B. C	5.40	16.20	14.35
Fon du Lac, Wis	Mason City, Iowa	.915	2.745	2.26
Do	Fargo, N. Dak	1.78	5.34	4.02
Do	Valley City, N. Dak	2.135	6.405	4.02
Do	Bismarck, N. Dak	2.435	7.305	4.78
Do	Pocatello, Idaho	3.98	11.94	9.90
Do	Shoshone, Idaho	4.03	12.09	10.46
Do	Los Angeles, Calif	5.10	15.30	12.61
Waterloo, Iowa	Nashville, Tenn	1.915	3.895	3.39
Do	Louisville, Ky	1.035	3.105	3.25
Mason City, Iowa	Nashville, Tenn	1.915	3.985	3.58
Do	Louisville, Ky	1.48	4.44	3.47
Utica, N. Y	Lexington, Ky	1.135	3.405	3.19
Do	Roanoke, Va	1.29	3.87	3.25
Do	Nashville, Tenn	1.835	4.105	3.94
Cooperstown, N. Y	Lexington, Ky	1.135	3.405	3.33
Do	Roanoke, Va	1.29	3.87	3.11
Do	Nashville, Tenn	1.835	4.105	4.08

SHEEP.

Cooperstown, N. Y	Woodstock, Vt	1.045	3.135	1.80
Do	Harrsiburg, Pa	.665	1.995	1.94
Springfield, Ohio	Detroit, Mich	.725	2.175	1.94
Do	Wheeling, V. Wa	.76	2.28	1.80
Do	Lexington, Ky	1.00	3.00	1.66
Do	Nashville, Tenn	1.425	2.435	2.42
Do	San Angelo, Tex	3.145	9.44	7.07
Do	Salt Lake City, Utah	4.62	13.865	9.70
Pewaukee, Wis	Kirksville, Mo	1.02	3.06	2.49
Do	Ottumwa, Iowa	.93	2.79	2.49
Salt Lake City, Utah	Walla Walla, Wash	2.275	6.825	5.54
Do	Pendleton, Oreg	2.275	6.825	5.33
Do	Woodland, Calif	2.405	7.215	5.88
Do	Flagstaff, Ariz	4.33	12.99	6.85
Do	Boise, Idaho	1.66	4.98	4.44
Do	Billings, Mont	2.885	8.655	5.96
Do	Laramie, Wyo	2.165	6.495	4.44
Do	Denver, Colo	2.165	6.495	5.27
Do	Albuquerque, N. Mex	4.035	12.105	5.96
Do	San Angelo, Tex	4.955	14.865	9.01
Laramie, Wyo	San Angelo, Tex	3.45	10.35	6.24
Do	Salt Lake City, Utah	2.165	6.495	4.44

See footnotes end of tables.

TABLE 707.—*Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1, 1923*—Continued.

SWINE.

From—	To—	Freight.[2]		Express in crates.[1]
		Loose.	In crates.	
Hamilton, Ohio	Onward, Ind	0.52	1.56	1.89
Do	Portland, Mich	.87	2.61	1.94
Do	Mt. Carmel, Ill	.76	2.28	1.80
Marion, Ill	Perry, Kans	1.765	5.295	3.47
Do	Sherburn, Minn	1.835	5.505	3.74
Do	McLean, Tex	2.89	8.67	5.33
Do	Norfolk, Nebr	2.15	6.45	4.36
Do	Sutherland, Iowa	1.975	5.925	3.74
Do	Sioux Falls, S. Dak	1.83	5.49	4.30
Stanton, Nebr	Henderson, Colo	1.755	5.265	3.74
Do	Seguin, Tex	3.01	9.03	5.68
Do	Lankershim, Calif	4.20	12.60	10.95
Do	Muskogee, Okla	2.15	6.45	4.02
Do	Dubuque, Iowa	1.49	4.47	3.60
Do	Center Point, Ind	2.53	7.59	4.08
Do	Sheboygan Falls, Wis	1.79	5.37	4.15
Do	Bloomingdale, Mich	2.455	7.365	4.44
Do	Geneva, Ill	1.79	5.37	3.88
Do	Maynard, Minn	1.48	4.44	2.91
Do	St. Louis, Mo	1.54	4.62	3.31
Kansas City, Mo	Dubuque, Iowa	.915	2.745	2.97
Do	Shelbyville, Ky	2.05	6.15	3.39
Do	Bloomington, Ill	1.06	3.18	2.91
Do	Coffeyville, Kans	.79	2.37	2.08
Do	Howard Lake, Minn	1.295	3.885	3.74
Do	Indianapolis, Ind	1.69	5.07	3.11
Do	Omaha, Nebr	.76	2.28	2.08
Do	Ionia, Mich	1.95	5.85	3.60
Do	Friona, Tex	2.255	6.765	4.57
Do	Wilburton, Okla	1.445	4.335	3.25
Do	Oklahoma City, Okla	1.445	4.335	3.25
Algona, Iowa	Fon du Lac, Wis	1.055	3.165	2.56
Do	Ormsby, Minn	.81	2.43	1.39
Do	Oberlin, Kans	2.235	6.705	4.02
Do	Towner, Colo	2.505	7.515	5.27
Do	Elmer, Mo	1.06	3.18	3.25
Do	Crawfordsville, Ind	1.69	5.07	3.25
Do	Waverly, Minn	1.095	3.285	2.08
Do	Dayton, Ohio	1.845	5.535	3.74
Do	Pawhuska, Okla	1.125	3.375	4.57
Do	Swanson, Mich	1.36	4.08	
Do	Danville, Ill	1.07	3.21	3.11
Do	Muncie, Ind	1.765	5.295	3.39

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.

[1] These freight rates are on less than carlot shipments and apply to livestock described as "Livestock, chiefly valuable for breeding, racing, show purposes, and other special uses," subject to basic valuation as follows:

Each ox, bull, or steer	$75.00
Each cow	50.00
Each calf, 6 months old or under	20.00
Each hog	15.00
Each sheep	5.00

If values stated in Livestock contract exceed above basic values, an addition of 2 per cent should be made to the freight rate for each 50 per cent or fraction thereof in excess of the basic value.

These freight rates are further subject to the following minima:

	Pounds.
One cow, calf over 6 months old, ox, steer, bull, each	3,000
Each additional animal of above kind (except bull over 1 year old)	1,500
Each additional bull over 1 year old	2,000
One cow with calf not over 6 months old	3,500
Each additional cow with calf over 6 months old	2,500
Calves 6 months old or under, sheep, or hogs, minimum for each shipment	3,000

[2] Express rates on beef and dairy cattle and calves, crated, each weighing not over 750 pounds gross; each weighing over 750 pounds gross, or when two or more are shipped in one crate and gross exceeds 750 pounds, subject to an additional charge of 50 per cent of the rate. When declared or released value exceeds $75 each on cows, calves 6 months old or over, oxen, steers; $25 each on calves under 6 months; $25 each on hogs; $25 each on sheep; charges should be made as follows: Between points where rate is not over $2, 1 per cent of excess value; where rate is not over $3, 1½ per cent of excess value; where rate is not over $5, 2 per cent of excess value; where rate exceeds $5, 2½ per cent of excess value.

TABLE 708.—*Index numbers showing changes in freight rates of 50 representative agricultural products, by months, 1900–1923.*

[Average for year 1913=100.]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1900	105.7	105.7	103.8	103.4	103.7	103.6	103.7	103.5	103.4	103.5	103.9	103.9	104.0
1901	103.8	104.4	104.4	104.4	104.3	103.5	103.1	103.1	103.1	103.4	103.9	103.9	103.8
1902	103.9	103.9	103.9	103.9	103.7	103.6	103.3	103.1	102.8	102.7	102.7	103.6	103.4
1903	103.9	103.6	103.5	103.5	103.1	102.9	103.0	102.9	102.8	102.6	102.9	103.7	103.2
1904	103.5	102.7	102.1	102.0	90.8	101.9	102.3	102.3	102.3	102.3	102.3	105.2	101.6
1905	101.4	101.8	101.7	101.9	101.5	101.0	100.8	100.7	100.8	100.8	100.8	100.8	101.2
1906	101.0	101.0	101.0	101.0	101.0	101.0	100.8	100.3	100.1	100.1	100.1	100.2	100.6
1907	100.2	98.3	100.2	100.4	100.3	100.3	100.4	100.2	99.9	99.7	99.7	99.7	99.9
1908	99.7	99.7	99.7	99.7	99.9	100.1	100.1	100.5	100.5	100.6	100.4	100.4	100.1
1909	100.0	100.0	99.9	99.9	99.9	99.9	99.9	100.0	100.1	100.1	99.9	99.9	100.0
1910	99.9	100.3	100.3	100.3	100.3	100.5	100.5	100.5	100.5	100.5	100.5	100.4	100.4
1911	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.5	100.4
1912	100.5	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.5	100.5	100.5	100.4
1913	100.5	100.5	100.5	100.5	100.5	100.5	100.2	99.5	99.3	99.3	99.3	99.3	100.0
1914	99.3	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.5	99.6	99.4
1915	99.7	100.0	100.2	100.2	100.3	100.3	100.3	100.3	100.3	100.5	100.4	100.4	100.2
1916	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.7	100.7	100.7	100.7	100.6
1917	100.7	100.7	100.8	100.8	100.8	100.8	100.8	101.6	101.9	102.2	102.4	102.4	101.3
1918	102.4	102.4	102.4	103.2	103.3	108.8	130.7	130.7	130.7	130.5	130.3	130.3	117.1
1919	130.3	130.3	130.4	130.5	130.5	130.8	130.8	130.5	130.7	131.4	131.4	131.6	130.8
1920	131.8	131.8	132.1	132.1	132.1	131.9	131.7	140.2	176.1	176.1	176.1	176.3	147.4
1921	176.8	176.8	177.3	177.8	177.8	177.8	177.7	177.4	177.2	176.1	175.8	175.8	177.0
1922	161.5	161.4	161.4	161.7	161.5	158.2	158.0	158.0	158.3	158.2	158.2	158.2	159.2
1923	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.6

Division of Statistical and Historical Research.

The commodities and rates on which this index is based will be found in the Yearbook, 1922, pp. 1013–18. Except for the following corrections of rates in effect Jan. 1, 1923, no changes in the rates used in the index took place during 1923:

	Cents per 100 pounds
Rate on potatoes from Greeley, Colo., to Chicago should be	65
Rate on potatoes from Idaho Falls, Idaho, to St. Louis should be	69
Rate on eggs from Petaluma, Calif., to Chicago should be	260
Rate on corn from Sperry, Iowa, to Los Angeles City should be	66
Rate on wheat from Pana, Ill., to New York should be	41.5
Rate on cattle from Amarillo, Tex., to Kansas City, Mo., should be	47
Rate on cattle from Garretson, S. Dak., to Sioux City, Iowa, should be	20

FERTILIZER MATERIALS AND FERTILIZER.

TABLE 709.—*Pyrites: Production, price and value, 1904–1922.*

PRODUCTION.

State.	Calendar years.						
	1904	1905	1906	1907	1908	1909	1910
	Long tons.	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*
Alabama, Georgia	18,369	19,928	26,173	28,261	23,915	15,848	----------
California	26,902	61,748	52,926	51,950	30,545	51,266	23,700
Illinois	----------	----------	----------	----------	4,905	8,332	10,502
Indiana	4,465	3,107	2,579	4,929	----------	----------	----------
Massachusetts, New York	26,552	24,155	----------	----------	40,362	47,987	38,978
Ohio	5,285	11,935	46,218	30,671	----------	----------	----------
Virginia	4,837	8,944	4,732	6,816	6,531	9,461	3,766
Wisconsin	120,671	123,183	128,794	124,740	113,340	114,176	148,653
	----------	----------	----------	----------	----------	----------	12,555
Total	207,081	253,000	261,422	247,367	222,898	247,070	238,154

TABLE 709.—*Pyrites: Production, price and value, 1904–1922*—Continued.

PRODUCTION—Continued.

State	Calendar years.					
	1911	1912	1913	1914	1915	1916
	Long tons.	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*
Georgia			11,110			
California	48,415	61,812	70,536	71,272	132,270	145,762
Illinois	17,441	27,006	11,246	22,538	14,849	20,462
Indiana		1,462	1,242	1,710	972	772
Ohio	6,471	14,487	13,622	7,279	10,857	13,551
Virginia	150,800	162,478	148,259	141,276	145,050	148,502
Wisconsin	12,893	17,898	25,328	14,188	13,985	
Other States	65,438	65,783	59,995	78,399	76,141	94,487
Total	301,458	350,928	341,338	336,662	394,124	423,556

State.	1917	1918	1919	1920	1921	1922
	Long tons.	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*	*Long tons.*
Colorado	20,000	18,817	17,474	25,523	7,290	
Georgia	23,242	31,315	34,412			
California	115,817	111,861	128,803	128,114	98,252	
Illinois	24,596	24,369	13,353			
New York		63,982	60,544	30,753		
Missouri		7,674				
Ohio	13,218	9,845	4,609			
Virginia	170,382	143,427	119,164	100,545		
Wisconsin			26,053			
Other States	115,407	53,204	16,235	25,842	51,576	
Total	482,662	464,494	420,647	310,777	157,118	169,043

AVERAGE PRICE PER TON.

State.	Calendar years.												
	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Alabama	4.14	3.61	3.01	3.02	2.91	4.88				4.96			
Georgia													
California	4.94	4.01	4.48	3.36	4.31	4.96	4.65	3.78	3.26	3.10	3.30	3.75	3.88
Illinois					2.89	2.77	3.21	2.70	2.33	2.84	2.62	1.51	2.51
Indiana	3.64	3.70	2.78	2.98					3.89	2.51	3.09	3.17	3.17
Massachusetts	4.34	4.50											
New York	3.35	3.34	3.52	4.14	4.61	4.61	4.80						
Ohio	3.29	3.66	3.05	3.05	3.05	3.07	3.41	2.78	3.03	2.57	2.71	2.52	2.67
Virginia	3.65	3.46	3.35	2.99	3.74	3.71	3.80	3.70	3.82	3.96	3.94	5.03	6.23
Wisconsin							3.94	3.88	3.94	3.74	5.53	3.10	
Other States								4.71	4.99	4.34	4.20	4.63	4.07
Average	3.93	3.71	3.56	3.21	3.85	4.16	4.03	3.86	3.80	3.77	3.81	4.25	4.64

State.	1917	1918	1919	1920	1921	1922
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Colorado	5.38	6.15	4.88	4.84	2.53	
Georgia	6.69	8.58	10.16			
California	2.88	4.48	4.12	4.05	4.76	
Illinois	3.66	3.52	3.49			
New York		6.61	7.78	8.51		
Missouri		9.02				
Ohio	2.24	4.08	3.66			
Virginia	8.09	5.86	7.48	6.07		
Wisconsin			.74			
Other States	4.32	5.62	9.24	3.19	4.36	
Average	5.37	5.69	6.08	5.14	4.53	3.97

TABLE 709.—*Pyrites: Production, price and value, 1904–1922*—Continued.

VALUE.

State.	Calendar years.					
	1904	1905	1906	1907	1908	1909
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Alabama, Georgia, California	76,101 / 132,905	71,863 / 247,712	78,817 / 236,867	85,307 / 174,549	60,635 / 131,744	77,291 / 254,235
Illinois					14,157	23,045
Indiana	16,242	11,491	7,179	14,713		
Massachusetts, New York	115,184 / 17,705	108,765 / 39,883	162,615	126,991	186,126	221,299
Ohio	15,918	32,770	14,439	20,803	19,929	29,003
Virginia	440,753	426,008	431,388	372,586	435,522	423,283
Total	814,808	938,492	931,305	794,949	857,113	1,028,157

State.	1910	1911	1912	1913	1914	1915	1916
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Georgia				55,094			
California	110,134	182,787	201,453	218,525	235,129	496,111	555,609
Illinois	33,747	47,020	62,980	31,966	59,079	22,476	51,432
Indiana			5,684	3,115	5,281	3,060	2,445
Massachusetts, New York	187,071						
Ohio	12,831	18,017	43,853	34,998	19,718	27,404	36,114
Virginia	565,358	558,404	621,219	587,041	556,091	729,644	925,243
Wisconsin	49,467	50,925	70,518	94,727	78,460	43,354	
Other States		308,527	328,552	260,618	329,588	352,864	384,769
Total	958,608	1,164,870	1,334,259	1,286,084	1,283,346	1,674,933	1,965,702

State.	1917	1918	1919	1920	1921	1922
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Colorado	107,600	115,712	85,261	123,674	18,475	
Georgia	155,560	268,797	349,779			
California	333,801	501,541	530,078	519,078	467,958	
Illinois	89,998	85,659	46,634			
New York		422,958	468,257	261,575		
Missouri		69,202				
Ohio	29,557	40,215	16,886			
Virginia	1,378,043	841,177	891,308	610,085		
Wisconsin			19,287			
Other States	498,776	299,254	150,082	82,549	224,999	
Total	2,593,035	2,044,515	2,558,172	1,596,961	711,432	671,241

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

TABLE 710.—*Phosphate rock: Production by States, based on the quantity marketed, 1891–1922.*

State and item.	Calendar years.					
	1891			1892		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.
	Long tons.	*Dollars.*	*Dollars.*	*Long tons.*	*Dollars.*	*Dollars.*
Florida:						
Hard rock				155,908	859,276	5.51
Soft rock	57,982			6,710	32,418	4.83
Land pebble				21,905	111,271	5.08
River pebble	54,500			102,820	415,453	4.04
Total	112,482	703,013	6.25	287,343	1,418,418	4.94
South Carolina:						
Land rock	344,978	2,187,160	6.34	243,653	1,236,447	5.07
River rock	130,528	760,978	5.83	150,575	641,262	4.26
Total	475,506	2,948,138	6.20	394,228	1,877,709	4.76
Grand total	587,988	3,651,151	6.21	681,571	3,296,127	4.84

TABLE 719.—*Phosphate rock: Production by States, based on the quantity marketed, 1891–1922*—Continued.

State and item.	Calendar years.					
	1893			1894		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.
	Long tons.	*Dollars.*	*Dollars.*	*Long tons.*	*Dollars.*	*Dollars.*
Florida:						
Hard rock	215,085	1,117,732	5.18	326,461	979,383	3.00
Soft rock	13,675	64,626	4.73			
Land pebble	86,634	359,127	4.15	98,885	296,655	3.00
River pebble	122,890	437,571	3.56	102,307	390,775	3.82
Total	438,804	1,979,056	4.51	527,653	1,666,813	3.16
South Carolina:						
Land rock	308,435	1,408,785	4.57	307,305	1,252,768	4.08
River rock	194,129	748,229	3.85	142,803	492,808	3 45
Total	502,564	2,157,014	4.29	450,108	1,745,576	3.88
Tennessee				19,188	67,158	3.50
Grand total	941,368	4,136,070	4.39	996,949	3,479,547	3.49
	1895			1896		
Florida:						
Hard rock	307,698	1,302,696	4.24	296,811	1,067,525	3.60
Soft rock	6,916	32,600	4.63	400	2,300	5.75
Land pebble	181,011	593,716	3.28	97,936	176,972	1.81
River pebble	72,086	185,090	2.53	100,052	300,556	3.00
Total	568,061	2,112,902	3.72	495,199	1,547,353	3.12
South Carolina:						
Land rock	270,560	898,787	3.32	267,072	792,457	2 97
River rock	161,415	512,245	3.17	135,251	389,192	2.88
Total	431,975	1,411,032	3.27	402,423	1,181,649	2.94
Tennessee	38,515	82,160	2.13	26,157	57,370	2.19
North Carolina				7,000	17,000	2.43
Grand total	1,038,551	3,606,094	3.47	930,779	2,803,372	3.01
	1897			1898		
Florida:						
Hard rock	360,147	1,063,713	2.95	366,810	1,396,108	3.81
Soft rock	2,300	4,600	2.00			
Land pebble	92,132	180,794	1.96	155,084	268,668	1.89
River pebble	97,763	244,408	2.50	79,000	158,000	2.00
Total	552,342	1,493,515	2.70	600,894	1,847,796	3.08
South Carolina:						
Land rock	267,380	748,050	2.80	298,610	856,225	2.87
River rock	90,900	238,522	2.62	101,274	251,047	2.48
Total	358,280	986,572	2.75	399,884	1,107,272	2.77
Tennessee	128,722	192,115	1.50	308,107	498,392	1.62
Grand total	1,039,345	2,673,202	2.57	1,308,885	3,453,460	2.64
	1899			1900		
Florida:						
Hard rock	460,297	2,119,130	4.60	424,977	2,229,373	5.25
Land pebble	177,170	515,493	2.91	221,403	612,988	2.77
River pebble	98,953	169,473	1.91	59,863	141,886	2.36
Total	736,420	2,804,061	3.86	706,243	2,983,312	4.22
South Carolina:						
Land rock	223,949	728,969	3.30	266,186	877,405	3.30
River rock	132,701	339,130	2.56	62,957	164,695	2.61
Total	356,650	1,072,099	3.02	329,173	1,041,970	3.17
Tennessee	499,102	1,382,946	2.77	454,491	1,338,707	2.92
North Carolina	440					
Other States	2,000	8,000	4.50	1,300	5,250	4.03
Grand total	1,515,702	5,084,076	3.35	1,491,216	5,369,239	3.59

TABLE 719.—*Phosphate rock: Production by States, based on the quantity marketed, 1891–1922*—Continued.

State and item.	Calendar years.					
	1901			1902		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.
Florida:	*Long tons.*	*Dollars.*	*Dollars.*	*Long tons.*	*Dollars.*	*Dollars.*
Hard rock	457,568	2,393,060	5.23	429,384	1,743,604	4.06
Land pebble	247,454	660,702	2.67	350,991	810,792	2.31
River pebble	46,974	105,691	2.25	5,055	9,711	1.92
Total	751,996	3,159,473	4.20	785,430	2,564,197	3.26
South Carolina:						
Land rock	225,189	716,101	3.18	245,243	753,220	3.07
River rock	95,992	245,739	2.56	68,122	166,505	2.44
Total	321,181	961,840	2.99	313,365	919,725	2.94
Tennessee	409,653	1,192,090	2.91	390,799	1,206,647	3.09
Other States	893	3,000	3.36	720	2,875	3.99
Grand total	1,483,723	5,316,403	3.58	1,490,314	4,693,444	3.15
	1903			1904		
Florida:						
Hard rock	412,876	1,988,243	4.82	531,087	2,672,184	5.03
Land pebble	390,882	885,425	2.27	460,834	1,102,993	2.39
River pebble	56,578	113,156	2.00	81,030	199,127	2.46
Total	860,336	2,986,824	3.47	1,072,951	3,974,304	3.70
South Carolina:						
Land rock	233,540	721,368	3.09	258,806	830,117	3.21
River rock	25,000	62,500	2.50	12,000	31,200	2.60
Total	258,540	783,868	3.03	270,806	861,317	3.18
Tennessee	460,530	1,543,567	3.35	530,571	1,745,954	3.29
Other States	2,170	5,100	2.35	100	200	2.00
Grand total	1,581,576	5,319,294	3.36	1,874,428	6,580,875	3.51
	1905			1906		
Florida:						
Hard rock	577,672	2,993,782	5.18	587,598	3,440,276	5.85
Land pebble	528,587	1,045,113	1.98	675,444	2,429,262	3.60
River pebble	87,847	213,000	2.42	41,463	116,100	2.80
Total	1,194,106	4,251,845	3.56	1,304,505	5,585,578	4.28
South Carolina:						
Land rock	234,676	774,447	3.30	190,180	711,447	3.74
River rock	35,549	103,722	2.92	33,495	105,621	3.15
Total	270,225	878,169	3.25	223,675	817,068	3.65
Tennessee:						
Brown rock	438,139	1,509,748	3.45	510,705	2,027,917	3.97
Blue rock	44,031	121,486	2.76	35,669	114,997	3.22
White rock	689	2,185	3.13	1,303	5,077	3.90
Total	482,859	1,633,389	3.38	547,677	2,147,991	3.92
Other States				5,100	28,390	5.65
Grand total	1,947,190	6,763,403	3.47	2,080,957	8,579,437	4.12

TABLE 710.—*Phosphate rock: Production by States, based on the quantity marketed, 1891–1922*—Continued.

State and item.	Calendar years.					
	1907			1908		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.
Florida:	*Long tons.*	*Dollars.*	*Dollars.*	*Long tons.*	*Dollars.*	*Dollars.*
Hard rock	646,156	4,065,375	6.29	595,743	4,566,018	7.66
Land pebble	675,024	2,376,261	3.52	1,085,199	3,885,041	3.58
River pebble	36,185	136,121	3.76	11,160	33,480	3.00
Total	1,357,365	6,577,757	4.85	1,692,102	8,484,539	5.01
South Carolina:						
Land rock	228,354	883,965	3.87	192,263	854,837	4.45
River rock	28,867	96,902	3.36	33,232	135,044	4.06
Total	257,221	980,867	3.81	225,495	989,881	4.39
Tennessee:						
Brown rock	594,594	2,880,904	4.85	374,114	1,572,525	4.20
Blue rock	38,993	142,382	3.65	79,717	299,941	3.76
White rock	5,025	24,550	4.89	1,000	4,755	2.97
Total	638,612	3,047,836	4.77	455,431	1,877,221	4.12
Other States	12,145	47,098	3.88	13,110	47,483	3.62
Grand total	2,265,343	10,653,558	4.70	2,386,138	11,399,124	4.78
	1909			1910		
Florida:						
Hard rock	513,585	4,026,333	7.84	438,347	3,051,827	6.96
Land pebble	1,266,117	4,514,968	3.56	1,629,160	5,595,947	3.43
Total	1,779,702	8,541,301	4.79	2,067,507	8,647,774	4.18
South Carolina:						
Land rock	201,254	888,611	4.41	179,659	733,057	4.08
River rock	6,700	21,975	3.28	(1)	(1)	
Total	207,954	910,586	4.37	179,659	733,057	4.08
Tennessee:						
Brown rock	266,298	1,011,028	3.79	329,382	1,262,279	3.83
Blue rock	66,705	275,165	4.12	68,806	241,071	3.50
Total	333,003	1,286,193	3.86	398,188	1,503,350	3.78
Other States	9,493	34,040	3.58	9,634	32,819	3.41
Grand total	2,330,152	10,772,120	4.62	2,654,988	10,917,000	4.11
	1911			1912		
Florida:						
Hard rock	443,511	2,761,449	6.23	493,481	3,293,168	6.67
Land pebble	[2] 1,992,737	6,712,189	3.37	[2] 1,913,418	6,168,129	3.22
Total	2,436,248	9,473,638	3.89	2,406,899	9,461,297	3.93
South Carolina:						
Land rock	169,156	673,156	3.98	131,490	524,760	3.99
Tennessee:						
Brown rock	365,068	1,450,063	3.97	359,692	1,420,726	3.95
Blue rock	72,302	263,954	3.65	63,639	219,750	3.45
Total	437,370	1,714,017	3.92	423,331	1,640,476	3.88
Other States	10,505	39,882	3.80	11,612	49,241	4.24
Grand total	3,053,279	11,900,693	3.90	2,973,332	11,675,774	3.93

[1] Included in land rock.

[2] Includes small amount of river pebble.

TABLE 710.—*Phosphate rock: Production by States, based on the quantity marketed, 1891–1922*—Continued.

State and item.	Calendar years.					
	1913			1914		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.
Florida:	*Long tons.*	*Dollars.*	*Dollars.*	*Long tons.*	*Dollars.*	*Dollars.*
Hard rock	489,794	2,987,274	6.10	309,689	1,912,197	6.17
Land pebble	[2] 2,055,482	6,575,810	3.20	[2] 1,829,202	5,442,547	2.98
Total	2,545,276	9,563,084	3.76	2,138,891	7,354,744	3.44
South Carolina:						
Land rock	109,333	440,588	4.03	106,919	415,039	3.88
Tennessee:						
Brown rock Blue rock	451,559	1,774,392	3.93	483,203	1,822,770	3.77
Total	451,559	1,774,392	3.93	483,203	1,822,770	3.77
Other States	5,953	18,167	3.60	5,030	15,488	3.08
Grand total	3,111,221	11,796,231	3.79	2,734,043	9,608,041	3.51
	1915			1916		
Florida:						
Hard rock	50,130	265,738	5.30	47,087	295,755	6.28
Land pebble	[2] 1,308,481	3,496,501	2.67	[2] 1,468,758	3,874,410	2.64
Total	1,358,611	3,762,239	2.77	1,515,845	4,170,165	2.75
South Carolina:						
Land rock	83,460	310,850	3.72	53,047	211,125	3.98
Tennessee:						
Brown rock Blue rock White rock	389,759	1,327,747	3.41	364,108 47,682	1,357,888 152,465	3.73 3.20
Total	389,759	1,327,747	3.41	411,790	1,510,353	3.67
Other States	3,837	12,613	3.29	1,703	5,350	3.14
Grand total	1,835,667	5,413,449	2.95	1,982,385	5,896,993	2.97
	1917			1918		
Florida:						
Hard rock Soft rock	18,608	159,366	8.56	62,052 8,331	377,075 147,103	6.08 17.66
Land pebble	[2] 2,003,991	5,305,127	2.65	[2] 1,996,847	5,565,928	2.79
Total	2,022,599	5,464,493	2.70	2,067,230	6,090,106	2.95
South Carolina:						
Land rock	33,485	138,482	4.14	37,040	164,650	4.45
Tennessee:						
Brown rock	447,203	1,920,533	4.29	374,535	1,917,546	5.12
Blue rock	65,904	205,820	3.12			
Total	513,107	2,126,353	4.14	374,535	1,917,546	5.12
Other States	15,096	41,756	2.77	11,955	42,161	3.53
Grand total	2,584,287	7,771,084	3.01	2,490,760	8,214,463	3.30

[2] Includes small amount of river pebble.

TABLE 710.—*Phosphate rock: Production by States, based on the quantity marketed, 1891–1922*—Continued.

State and item.	Calendar years.					
	1919			1920		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.
Florida:	*Long tons.*	*Dollars.*	*Dollars.*	*Long tons.*	*Dollars.*	*Dollars.*
Hard rock	255,467	2,452,563	9.60	400,249	4,525,191	11.31
Soft rock	14,498	196,318	13.54	13,953	190,551	13.66
Land pebble	1,390,235	5,148,048	3.70	2,955,182	14,748,620	4.99
Total	1,660,209	7,797,929	4.70	3,369,384	19,464,362	5.78
South Carolina:						
Land rock	60,823	398,968	5.08	44,141	367,209	8.32
Tennessee:						
Brown rock	475,475	3,123,565	6.57	556,177	4,425,751	7.96
Blue rock	58,550	290,951	4.97	78,671	518,234	6.59
Total	534,025	3,414,516	6.39	634,848	4,943,995	7.79
Other States	16,935	69,855	4.12	55,609	304,006	5.47
Grand total	2,271,993	11,591,268	5.10	4,103,982	25,079,572	6.11
	1921			1922		
Florida:						
Hard rock	175,774	1,806,671	10.28	188,084	1,308,201	6.96
Soft rock	4,419	20,153	4.56	446	3,500	7.85
Land pebble	1,599,835	8,604,818	5.38	1,870,063	7,035,821	3.76
Total	1,780,028	10,431,642	5.86	2,058,593	8,347,522	4.06
South Carolina:						
Land rock				1,500	8,250	5.50
Tennessee:						
Brown rock	252,543	1,666,358	6.60	344,231	2,055,579	5.97
Blue rock	25,163	146,198	5.81	9,078	51,803	5.71
Total	277,706	1,812,556	6.53	353,309	2,107,382	5.96
Other States	6,291	25,872	4.11	4,481	19,693	4.39
Grand total	2,064,025	12,270,070	5.95	2,417,883	10,482,846	4.34

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

TABLE 711.—*Lime and peat, for fertilizer: Production and value, United States, 1908–1922.*

Calendar year.	Quantity.			Value		
	Hydrated lime.	Limestone pulverized.	Peat.	Hydrated lime.	Limestone pulverized.	Peat.
	Short tons.	*Short tons.*	*Short tons.*	*Dollars.*	*Dollars.*	*Dollars.*
1908			22,000			121,210
1909			26,768			118,891
1910			37,924			140,209
1911		174,280	51,733		206,006	257,204
1912		200,000	41,080		311,702	186,093
1913		408,637	28,460		493,718	169,800
1914	126,126	615,197	37,729	548,692	668,961	249,899
1915		810,209	38,804		893,530	258,447
1916	184,944	1,088,378	48,196	869,654	1,145,582	336,004
1917	177,615	1,040,248	92,263	1,114,359	1,352,397	658,589
1918	181,890	1,091,918	78,573	1,452,436	1,626,292	775,313
1919	198,165	1,392,914	54,690	1,784,110	2,409,460	557,240
1920	146,961	1,364,260	63,272	1,525,950	2,724,209	773,635
1921	142,582	1,311,520	29,480	1,397,122	2,254,530	351,946
1922	150,423	1,195,000	57,747	1,254,894	2,150,435	369,165

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

TABLE 712.—*Lime, for agricultural purposes: Production and value, 1915–1922.*

PRODUCTION.

State.	Calendar years.							
	1915	1916	1917	1918	1919	1920	1921	1922
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Alabama	379	592	1,791	1,947				
California	6,219	5,386	6,196	850			559	2,756
Connecticut	1,066							
Indiana	6,207	3,491	2,297	1,303	5,868	3,475	1,182	5,017
Kentucky	188	241						
Maine		9,553	10,243	8,017	8,763	7,810	8,207	8,912
Maryland	113,176	109,468	85,633	68,807	76,770	64,193	50,543	44,063
Massachusetts	4,257	4,590	5,073	3,089	4,673	4,552	2,902	4,626
Missouri	676		4,317	193	1,123	1,891		1,961
New Jersey	8,999	6,517	5,002	2,208	4,154	2,997		2,078
New York	26,824	12,649	9,588	5,931	6,206	3,323	3,917	2,751
Ohio	54,118	49,527	29,997	40,001	27,696	11,195	16,969	25,332
Pennsylvania	345,960	318,722	246,608	200,073	232,831	202,830	182,667	137,460
Tennessee	3,520	2,080	1,904	3,311	730	877	614	1,392
Vermont		1,276	502	2,201	2,072	752	1,278	1,111
Virginia	45,149	38,751	44,335	34,444	35,712	26,974	21,793	16,420
West Virginia	32,558	41,507	21,999	16,053	25,253	17,449	17,746	15,287
Wisconsin	378		954	241	433	356	145	657
Other States	22,954	8,391	10,931	1,555	4,698	2,280	5,768	3,192
Total	672,538	612,461	497,370	390,224	436,982	350,454	284,290	272,127
Hawaii						475	75	
Porto Rico	722	1,066	927	823	1,650	922	357	599
Total	673,260	613,527	498,297	391,047	438,632	351,851	284,722	272,726

VALUE.

	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Alabama	1,308	2,246	9,816	17,436				
California	28,606	31,974	32,447	8,304			4,968	35,774
Connecticut	4,667							
Indiana	20,065	14,598	12,143	6,122	49,461	33,210	11,328	39,741
Kentucky	525	790						
Maine		39,729	35,216	46,168	59,558	39,157	51,978	48,253
Maryland	356,768	407,930	463,061	534,852	655,704	614,097	441,085	351,492
Massachusetts	11,325	12,226	18,185	35,450	25,532	26,996	15,062	19,163
Missouri	2,467		26,844	1,706	8,540	20,770		11,736
New Jersey	27,610	22,202	18,978	12,268	21,997	23,920		18,382
New York	81,468	44,891	40,540	27,868	34,574	23,912	30,394	22,613
Ohio	208,221	224,120	161,205	275,561	212,156	99,219	125,844	177,571
Pennsylvania	995,703	1,036,222	1,218,316	1,343,636	1,706,027	1,792,948	1,183,361	1,021,092
Tennessee	9,150	4,410	9,835	15,333	6,020	2,465	5,217	11,752
Vermont		3,804	1,380	8,288	15,474	5,157	7,687	6,262
Virginia	170,557	147,943	235,568	232,204	260,032	208,190	161,653	109,908
West Virginia	111,921	100,939	105,892	116,554	191,125	160,091	136,982	101,075
Wisconsin	606		5,624	592	4,754	1,824	868	4,523
Other States	135,031	65,884	74,938	10,267	49,495	25,944	54,154	21,814
Total	2,100,998	2,219,888	2,470,408	2,692,519	3,330,449	3,077,600	2,230,359	2,001,231
Hawaii						8,313	1,500	
Porto Rico	2,876	4,513	5,323	6,329	14,590	11,392	5,651	3,851
Total	2,103,874	2,224,401	2,475,731	2,698,848	3,345,039	3,096,705	2,237,510	2,005,082

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

TABLE 713.—*Phosphate rock, pyrites, and marl: Production and value for fertilizer, United States, 1880–1922.*

Calendar year.	Quantity.			Value.		
	Phosphate rock.	Pyrites.	Marl.	Phosphate rock.	Pyrites.	Marl.
	Long tons.	*Long tons.*	*Long tons.*	*Dollars.*	*Dollars.*	*Dollars.*
1880	211,377	2,000	1,000,000	1,123,823	5,000	500,000
1881	266,734	10,000	1,000,000	1,998,259	60,000	600,000
1882	332,077	12,000	1,080,000	1,992,462	72,000	540,000
1883	378,380	25,000	972,000	2,270,280	137,500	486,000
1884	431,779	35,000	875,000	2,374,784	175,000	437,500
1885	437,856	49,000	875,000	2,846,064	220,500	437,500
1886	430,549	55,000	800,000	1,872,936	220,000	400,000
1887	480,558	52,000	600,000	1,836,818	210,000	300,000
1888	448,567	54,331	300,000	2,018,552	167,658	150,000
1889	550,245	93,705	139,522	2,937,776	202,119	63,956
1890	510,499	99,854	153,620	3,213,795	273,745	69,880
1891	587,988	106,536	135,000	3,651,151	338,880	67,500
1892	681,571	109,788	125,000	3,296,227	305,191	65,000
1893	941,368	75,777	75,000	4,186,070	256,552	40,000
1894	996,949	105,940	75,000	3,479,547	363,134	40,000
1895	1,038,551	99,549	60,000	3,606,094	322,845	30,000
1896	930,779	115,483	60,000	2,803,372	320,163	30,000
1897	1,039,345	143,201	60,000	2,673,202	391,541	30,000
1898	1,308,885	193,364	60,000	3,453,460	593,801	30,000
1899	1,515,702	174,734	60,000	5,084,076	543,249	30,000
1900	1,491,216	204,615	60,000	5,359,248	749,991	30,000
1901	1,483,723	[1] 241,691	99,880	5,316,403	[1] 257,879	124,880
1902	1,490,314	[1] 207,874	12,439	4,693,444	947,089	12,741
1903	1,581,576	[1] 233,127	34,211	5,312,294	1,109,818	23,521
1904	1,874,428	207,081	18,989	6,580,875	814,808	13,145
1905	1,947,190	253,000	38,026	6,763,403	938,492	16,494
1906	2,080,957	261,422	19,104	8,579,437	931,305	7,341
1907	2,265,343	247,387	14,091	10,653,558	794,949	8,429
1908	2,386,138	222,598	8,469	11,399,124	857,113	4,230
1909	2,330,152	247,070	21,814	10,772,120	1,028,157	45,053
1910	2,654,988	241,612	----------	10,917,060	977,978	----------
1911	3,053,279	301,458	----------	11,900,693	1,164,871	----------
1912	2,973,332	350,928	----------	11,675,774	1,334,259	----------
1913	3,111,221	341,338	----------	11,796,231	1,286,084	----------
1914	2,734,043	336,662	----------	9,608,041	1,283,246	----------
1915	1,835,667	394,124	----------	5,413,449	1,674,933	----------
1916	1,982,385	439,132	58,088	8,896,993	2,038,002	144,768
1917	2,584,287	482,602	73,900	7,771,084	2,593,035	165,228
1918	2,490,760	464,494	98,694	8,214,463	2,644,515	261,082
1919	2,271,983	420,647	91,437	11,591,268	2,558,172	327,294
1920	4,103,982	310,777	97,487	25,079,572	1,596,961	322,339
1921	2,064,025	157,118	59,730	12,270,070	711,432	195,743
1922	2,417,883	169,043	67,777	10,482,846	671,241	203,196

Division of Statistical and Historical Research. Compiled from report of Geological Survey.

[1] Includes production of natural sulphur.

TABLE 714.—*Fish scrap (acidulated): Production in Atlantic and Gulf coast districts, 1912–1922.*

Calendar year.	The North.	North Carolina.	Florida.	Texas.	Georgia.	Total, five districts.
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
1912	12,838	----------	----------	----------	----------	12,838
1913	31,548	2,039	----------	----------	----------	33,587
1914	12,162	3,089	1,190	1,544	----------	17,985
1915	5,268	3,045	788	1,273	----------	10,374
1916	5,215	5,110	2,400	1,800	----------	14,525
1917	5,637	7,478	2,336	865	1,345	17,661
1918	19,412	6,524	2,700	2,646	1,905	33,187
1919	30,086	6,784	5,030	4,420	750	47,070
1920	33,900	3,900	3,800	3,000	5,000	49,600
1921	----------	16,800	1,200	----------	1,890	[1] 57,890
1922	----------	2,120	2,120	----------	----------	4,240

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.

[1] Includes 37,558 tons produced in Chesapeake district.

TABLE 715.—*Fish scrap (dried): Production in Atlantic coast districts, 1912–1922.*

Calendar year.	Chesapeake.	The North.	North Carolina.	Florida.	Total, four districts.
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
1912	51,000	6,655	7,250	160	[1] 65,660
1913	29,358	2,744	2,175	245	34,522
1914	21,936	1,604	665	----------	24,205
1915	19,301	824	1,289	----------	21,414
1916	21,258	----------	----------	1,200	22,458
1917	14,584	292	5,187	762	20,825
1918	12,221	----------	3,460	366	16,047
1919	12,340	----------	2,763	----------	15,103
1920	18,750	----------	1,240	----------	19,990
1921	2,200	22,898	2,112	----------	27,210
1922	----------	----------	1,757	1,320	3,077

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.

[1] Includes 595 tons produced in Texas district.

TABLE 716.—*Fertilizer materials: Imports into the United States, 1912–1923.*

Year ending June 30.	Bone dust and bone ash.		Kainit.		Manure salts.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	*Dollars.*	*Tons.*	*Dollars.*	*Tons.*	*Dollars.*
1911-12	33,864	830,616	485,132	2,399,761	192,738	1,814,071
1912-13	33,337	801,713	466,795	2,154,977	171,802	1,794,058
1913-14	41,450	1,034,636	541,846	2,579,619	261,342	2,767,241
1914-15	23,428	584,748	79,004	444,760	66,062	760,699
1915-16	20,466	524,153	64	1,795	2,271	41,825
1916-17	14,395	385,541	----------	----------	324	7,794
1917-18	8,511	286,764	----------	----------	190	8,872
1918-19	4,138	117,690	----------	----------	----------	----------
1919-20	7,340	308,301	274,761	5,655,660	249,348	8,319,620
1920-21	27,413	1,317,876	204,834	4,882,974	123,273	4,164,817
1921-22	18,234	495,445	83,571	585,338	81,442	957,443
1922-23	52,338	1,357,742	168,514	1,048,054	[1] 244,760	[1] 2,389,098

Year ending June 30.	Ammonia sulphate.		Potash.			
			Muriate.		Sulphate.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	*Dollars.*	*Tons.*	*Dollars.*	*Tons.*	*Dollars.*
1911-12	65,906	4,143,417	215,957	7,235,718	44,476	1,826,836
1912-13	54,089	3,655,413	201,226	6,782,056	42,745	1,753,485
1913-14	74,444	4,888,563	227,886	7,915,523	45,139	1,897,740
1914-15	57,048	3,208,152	102,732	3,666,118	21,852	1,071,761
1915-16	19,610	1,371,007	2,130	461,431	2,423	197,906
1916-17	8,176	647,271	606	174,806	661	20,538
1917-18	3,983	467,999	723	195,154	135	19,837
1918-19	1,964	278,469	1,677	201,307	137	23,304
1919-20	2,587	343,107	110,324	11,038,173	6,356	1,073,322
1920-21	2,537	226,300	49,911	5,290,196	12,061	1,659,998
1921-22	6,356	314,286	131,423	5,549,580	45,280	2,085,348
1922-23	1,785	116,686	150,461	4,759,134	51,776	2,109,906

Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

[1] Includes "Other potash-bearing substances" amounting to 20,734 tons and valued at $238,651.

TABLE 717.—*Guano: Imports into the United States, 1900–1923.*

Year ending June 30.	Quantity.	Value.	Year ending June 30.	Quantity.	Value.
	Tons.	*Dollars.*		*Tons.*	*Dollars.*
1899–1900	4,756	58,966	1911–12	34,706	684,658
1900–1	4,590	36,617	1912–13	19,075	346,915
1901–2	8,790	144,599	1913–14	21,887	755,938
1902–3	16,237	201,416	1914–15	20,945	534,391
1903–4	23,872	319,793	1915–16	15,837	425,377
1904–5	33,490	516,851	1916–17	3,563	73,398
1905–6	18,147	208,560	1917–18	10,096	287,446
1906–7	22,681	342,295	1918–19	8,218	293,425
1907–8	27,665	352,350	1919–20	18,796	1,550,096
1908–9	36,999	590,334	1920–21	37,570	3,158,064
1909–10	52,330	845,765	1921–22	1,305	48,875
1910–11	29,516	593,306	1922–23	(1)	(1)

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

[1] Included in all other fertilizers.

TABLE 718.—*Fertilizer materials produced and consumed, 1902–1922.*

Calendar year.	Production.[1]		Consumption.	
	Sulphate of ammonia.[2]	Potash, crude.[3]	Sulphate of ammonia.[2]	Cottonseed meal used for fertilizer.[4]
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*
1902				388,000
1903				385,000
1904				452,000
1905	65,296			424,000
1906	75,000			595,000
1907	99,309			347,000
1908	83,400			497,000
1909	106,500		149,414	442,000
1910	116,000		206,342	597,000
1911	127,000		221,633	717,000
1912	165,000		224,542	666,000
1913	195,000		260,775	740,000
1914	183,000		258,010	881,000
1915	250,049	4,374	246,374	
1916	288,265	35,739	337,962	
1917	326,670	126,961	375,588	
1918	379,278	207,086	484,875	
1919	403,223	116,034	251,904	
1920	499,463	166,834	251,994	
1921	358,500	25,485	210,000	
1922	522,000	25,176	[5] 285,000	

Division of Statistical and Historical Research.

[1] Production for all purposes.
[2] The American Fertilizer Handbook.
[3] Geological Survey.
[4] Federal Trade Commission, 1902–1914. Data for later years not available.
[5] Estimated.

TABLE 719.—*Sulphuric acid: Production, consumption, imports, and exports for the United States, 1904–1922.*

Calendar year.	Production.[1]	Consumption.[1]	Year beginning July 1.			
			Imports for consumption.[2]		Exports, domestic.[2]	
			Quantity.	Value.	Quantity.	Value.
	Short tons.	*Short tons.*	*Short tons.*	*Dollars.*	*Dollars.*	*Dollars.*
1904	717,406	692,904	145	4,151		
1905			138	3,755		
1906			63	1,561		
1907			19	1,087		
1908			19	660	3,366	80,327
1909	995,384	841,935	18	1,063	2,541	61,899
1910			19	526	2,889	60,537
1911			24	639	3,501	71,877
1912			72	2,291	4,895	89,783
1913			3,362	40,559	6,066	125,892
1914	1,405,768	1,276,715	2,691	44,608	23,386	516,436
1915			3,143	61,352	41,010	1,990,532
1916			334	6,617	29,302	961,888
1917			14,113	358,904	33,827	1,119,907
1918			5,670	100,489	23,707	805,430
1919	1,877,394	1,568,577	4,611	79,204	16,167	778,287
1920			5,183	93,937	9,300	446,380
1921	1,319,582	1,143,850	2,458	54,717	6,990	265,509
1922	1,423,917	1,589,809	9,072	156,440	3,626	156,204

Division of Statistical and Historical Research.

[1] Bureau of the Census.
[2] Bureau of Foreign and Domestic Commerce.

TABLE 720.—*Fertilizer materials: Average wholesale prices, 1913–1923.*

AMMONIATES.

Calendar year.	Ammonia sulphate, domestic, spot, per 100 pounds.	Blood, dried, 12 per cent ammonia, f.o.b., per short ton.[1]		Fish scrap, dried, 11 per cent ammonia, 14 per cent bone phosphate, f.o.b. fish factory, per short ton.[1]	Fish, wet, acidulated, 6 per cent ammonia, 3 per cent phosphoric acid, f.o.b. fish factory, per short ton.	Soda, nitrate, spot, 95 per cent per 100 pounds.	Cottonseed, 7 per cent ammonia meal, f. o. b. mill, per short ton.
		New York.	Chicago.				
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
1913	3.48	34.56	32.76	29.12	16.11	2.46	
1914	2.73	38.52	37.08	38.14		2.10	
1915	3.34	34.08	31.68	36.82		2.43	
1916	3.82	38.76	36.24	42.21	25.26	3.21	
1917	5.99	67.20	63.96	60.14	33.70	4.13	
1918	5.70	83.40	Nominal.	81.28	43.12	4.74	
1919	4.38	74.76	Nominal.	73.12	36.60	3.58	
1920	5.01	90.84	Nominal.	74.77	36.12	3.52	41.00
1921	2.42	39.24	Nominal.	36.16	17.10	2.50	32.67
1922	3.01	49.68	50.64	40.12	19.26	2.54	39.50
1923	3.18	50.28	50.64	45.18	22.74	2.51	39.67

Division of Statistical and Historical Research. Compiled from Oil, Paint, and Drug Reporter.

[1] Converted from price per unit. Unit equals 1 per cent in a ton, or 20 pounds of pure ammonia.

TABLE 721.—*Fertilizer materials: Average wholesale prices per long ton, 1913–1922.*

PHOSPHATES.

Calendar year.	Tennessee phosphate rock, f. o. b. Mount Pleasant.		
	Domestic, 78 to 80 per cent.	75 per cent guaranteed.	68 to 72 per cent.
	Dollars.	*Dollars.*	*Dollars.*
1913	5.25	4.88	4.38
1914	5.25	4.88	4.38
1915	5.25	4.88	4.38
1916	5.25	4.88	4.38
1917	5.48	4.99	4.65
1918	6.56	6.71	6.81
1919	10.50	9.52	[1]7.49
1920	13.42	10.82	----
1921	15.25	8.90	----
1922	Nominal.	Nominal.	----

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter.

[1] Three months.

TABLE 722.—*Fertilizer materials: Average wholesale prices per long ton, 1913–1923.*

PHOSPHATES.

Calendar year.	South Carolina phosphate rock kiln dried, f. o. b. Ashley River.	Florida land pebble phosphate rock, 68 per cent f. o. b. Port Tampa.	Florida high grade phosphate hard rock.	
			77 per cent f. o. b. Florida ports.	75 per cent Tampa.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*
1913	3.62	3.49	6.00	----
1914	3.62	3.12	6.00	----
1915	3.62	3.01	5.60	----
1916	3.62	2.84	5.12	----
1917	3.89	2.63	5.42	----
1918	Nominal.	4.22	7.25	----
1919	Nominal.	5.00	9.39	7.75
1920	----	8.48	13.02	10.35
1921	----	5.90	12.02	8.74
1922	----	3.11	8.58	6.23
1923	----	3.05	7.60	5.17

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter.

TABLE 723.—*Fertilizers: Tags sold by the Georgia Department of Agriculture, 1901–1921.*

Season.	Fertilizers.	Cottonseed meal.	Season.	Fertilizers.	Cottonseed meal.
	Short tons.	*Short tons.*		*Short tons.*	*Short tons.*
1900–1901	482,571	58,076	1911–12	1,103,864	121,236
1901–2	443,997	74,130	1912–13	1,120,693	122,975
1902–3	555,414	84,468	1913–14	1,202,563	135,840
1903–4	618,730	96,818	1915	738,962	124,017
1904–5	622,414	90,328	1916	741,097	110,512
1905–6	743,424	87,253	1917	874,610	63,655
1906–7	728,361	87,768	1918	923,020	55,155
1907–8	766,166	85,298	1919	990,919	72,922
1908–9	807,832	108,532	1920	1,003,553	35,495
1909–10	1,030,699	103,302	1921	527,507	29,066
1910–11	1,202,722	129,748	Season 1921 to Oct. 1	516,223	7,805

Division of Statistical and Historical research. Compiled from Serial Bulletin No. 89 of the Georgia Department of Agriculture, 1922.

TABLE 724.—*Fertilizers: Expenditures for, by States.*

State.	Calendar year.				
	1879	1889	1899	1909	1919
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Maine	212,135	456,515	819,680	4,069,479	7,759,067
New Hampshire	165,203	246,293	367,980	512,580	526,180
Vermont	127,670	217,397	447,065	570,752	857,273
Massachusetts	653,422	896,560	1,320,600	1,965,682	3,906,733
Rhode Island	140,318	172,900	264,140	335,108	379,786
Connecticut	497,448	609,649	1,078,240	1,954,163	4,893,658
New York	2,715,477	3,627,726	4,493,050	7,142,265	15,067,371
New Jersey	1,601,609	1,837,719	2,165,320	4,277,604	10,742,682
Pennsylvania	3,525,336	3,384,310	4,685,920	6,901,605	15,628,341
Delaware	467,228	460,465	539,040	864,577	1,222,329
Maryland	2,838,465	2,419,826	2,618,890	3,387,634	7,610,478
District of Columbia	22,352	16,651	22,600	16,975	23,267
Virginia	2,137,283	2,320,260	3,681,790	6,932,455	17,277,705
West Virginia	176,300	210,767	405,270	528,937	1,709,546
North Carolina	2,111,767	2,882,238	4,479,030	12,262,533	48,796,694
South Carolina	2,659,969	3,867,418	4,494,410	15,162,017	52,546,795
Georgia	4,346,920	5,724,187	5,738,520	16,800,149	46,196,434
Florida	72,642	857,327	753,120	3,609,853	10,316,929
Ohio	550,029	1,602,869	2,695,470	4,180,485	13,206,018
Indiana	340,582	777,727	1,553,710	2,189,695	8,734,698
Illinois	174,277	124,977	830,660	615,594	2,996,403
Michigan	300,995	173,017	492,360	945,354	4,872,543
Wisconsin	178,892	105,192	294,320	127,753	779,750
Minnesota	93,250	61,578	251,120	74,653	432,680
Iowa	98,567	56,843	337,190	109,570	596,537
Missouri	109,724	65,705	370,630	671,073	3,941,488
North Dakota	----------	8,923	13,855	10,008	119,782
South Dakota	----------	15,675	12,940	11,294	34,466
Nebraska	20,794	19,269	153,080	31,021	64,752
Kansas	61,713	25,740	268,360	75,602	979,037
Kentucky	145,674	317,231	908,250	1,350,720	3,597,449
Tennessee	157,442	361,097	898,070	1,216,296	3,525,133
Alabama	1,200,956	2,421,648	2,599,290	7,630,952	14,066,108
Mississippi	123,253	789,268	932,098	2,703,271	4,288,165
Louisiana	278,305	906,348	1,076,890	2,004,919	3,840,469
Oklahoma	----------	3,817	----------	29,092	452,492
Texas	74,797	58,665	124,716	595,363	1,831,207
Arkansas	56,314	93,939	172,510	596,553	2,572,678
Montana	----------	4,757	3,940	12,323	126,232
Idaho	----------	2,127	17,150	20,737	106,121
Wyoming	----------	1,548	12,700	5,302	8,489
Colorado	5,195	25,074	23,225	61,113	294,448
New Mexico	10,733	9,217	2,880	25,371	113,483
Arizona	----------	10	2,921	6,060	40,892
Utah	11,394	23,211	14,300	20,037	108,956
Nevada	2,526	2,019	----------	8,379	9,897
Washington	----------	11,633	29,165	87,023	525,637
Oregon	10,519	13,370	27,395	68,557	489,524
California	108,732	148,886	937,050	2,143,993	8,182,998
United States	28,586,397	38,469,598	[1] 54,783,757	114,882,541	326,399,800

Division of Statistical and Historical Research. Compiled from reports of Bureau of the Census.

[1] Includes Hawaii and Alaska. Hawaii, 1899, $1,352,847.

TABLE 725.—*Fertilizer, commercial: Sold in cotton States, based on sale of fertilizer tags, 1914–1923.*

State.	Calendar year.				
	1914	1915	1916	1917	1918
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Virginia	437,698	403,077	366,970	495,961	429,999
North Carolina	981,965	762,449	740,394	918,215	1,065,924
South Carolina	1,105,840	610,143	570,410	884,961	1,004,896
Georgia	[1] 1,478,414	[1] 805,304	851,609	938,265	978,175
Florida	240,813	189,594	203,283	214,068	204,712
Alabama	[2] 597,990	[2] 301,467	[2] 212,250	[2] 210,170	[2] 196,980
Mississippi	181,675	141,700	111,200	92,037	114,212
Louisiana	90,588	78,420	75,151	96,265	118,430
Texas	77,460	17,500	21,500	42,000	58,000
Arkansas	114,700	68,700	65,600	90,292	98,589
Tennessee	92,000	78,072	67,930	87,528	113,370
Missouri	60,000	57,000	41,000	65,000	85,000
Total	5,462,393	3,517,431	3,427,497	4,116,682	4,618,198

State.	1919	1920	1921	1922	1923
Virginia	421,436	465,227	369,490	449,942	392,911
North Carolina	1,109,670	1,222,103	831,684	1,035,430	1,199,563
South Carolina	1,033,887	1,253,890	615,488	504,000	678,612
Georgia	1,063,941	1,039,048	556,573	535,084	677,794
Florida	250,643	272,316	289,857	329,668	367,638
Alabama	[2] 298,897	391,170	179,547	298,147	434,377
Mississippi	126,877	165,903	94,572	169,937	250,591
Louisiana	97,724	95,863	38,760	66,470	107,388
Texas	46,000	58,700	19,204	33,420	75,599
Arkansas	53,373	69,036	14,550	40,325	74,589
Tennessee	108,430	112,102	84,044	98,992	113,656
Missouri	70,000	77,888	8,022	7,900	16,909
Total	4,678,758	5,222,246	3,101,791	3,567,315	4,398,468

Division of Statistical and Historical Research. Compiled from Division of Crop and Livestock Estimates.

[1] To Sept. 15.
[2] Cottonseed meal not included.

WHOLESALE PRICES OF FARM PRODUCTS.

TABLE 726.—*Index numbers of wholesale prices of farm products, United States, 1913–1923.*

[Year 1913=100.]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1913	98	98	98	99	97	98	99	100	103	103	103	103	100
1914	103	103	102	102	101	101	103	106	106	101	102	101	103
1915	104	105	104	104	105	101	104	103	101	106	104	105	104
1916	110	110	111	113	115	114	117	125	131	136	147	146	123
1917	152	157	166	184	196	195	196	202	202	207	212	207	190
1918	211	214	211	218	209	210	217	227	234	235	235	237	218
1919	224	216	224	230	234	226	241	242	225	227	237	242	231
1920	247	237	237	243	241	237	233	218	210	187	173	152	218
1921	143	133	127	117	118	114	119	123	124	124	121	120	124
1922	122	131	130	129	132	131	135	131	133	138	143	145	133
1923	143	142	143	141	139	138	135	139	144	144	146	145	141

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 727.—*Index numbers of wholesale prices, by groups of commodities, United States, 1913–1923.*

[Year 1913=100.]

Calendar year.	Farm products.	Foods.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Building materials.	Chemicals and drugs.	House furnishing goods.	Miscellaneous.	All commodities.
1913	100	100	100	100	100	100	100	100	100	100
1914	102	102	98	93	85	92	101	100	96	98
1915	104	105	98	88	99	94	104	100	95	101
1916	128	131	127	126	162	130	151	106	121	127
1917	190	167	175	169	231	157	202	125	146	177
1918	218	188	228	170	187	172	215	153	156	194
1919	231	207	253	181	162	201	169	184	175	206
1920	218	220	295	241	192	264	200	254	196	226
1921	134	144	186	199	129	155	136	195	186	147
1922	153	138	181	218	122	168	124	176	117	149
1923	141	144	200	185	144	189	131	183	123	154

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 728.—*Index numbers of wholesale prices of all commodities, United States, 1913–1923.*

[Year 1913=100.]

Calendar Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1913	100	100	100	100	99	99	100	100	102	101	100	99	100
1914	98	99	98	98	97	97	97	101	102	97	97	97	98
1915	98	99	99	99	100	99	100	100	100	102	104	108	101
1916	113	115	119	121	122	123	123	126	130	136	146	149	127
1917	153	157	162	173	183	185	188	189	187	183	183	182	177
1918	184	186	187	190	196	191	196	200	204	202	203	202	194
1919	199	198	196	199	202	203	212	216	210	211	217	223	206
1920	233	232	234	245	247	243	241	231	226	211	196	179	226
1921	170	160	155	148	145	142	141	142	141	142	141	140	147
1922	138	141	142	143	148	150	155	155	153	154	156	156	149
1923	156	157	159	159	156	153	151	150	154	153	152	151	154

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports

CROP AND MEAT-ANIMAL PRICES.

TABLE 729.—*Index numbers of crop and meat-animal prices, monthly and average, 1908–1923.*

CROPS.[1]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	120.1	122.2	124.3	125.7	127.5	126.6	133.8	135.5	130.6	127.2	119.6	117.6
1909	117.8	120.4	126.3	130.6	139.6	146.5	148.5	142.3	132.9	130.5	129.8	132.7
1910	134.1	138.5	139.9	138.8	133.5	133.5	133.1	137.1	137.0	129.6	122.2	118.4
1911	118.6	119.8	117.9	118.0	122.2	127.7	136.3	143.2	141.6	138.0	135.6	133.1
1912	133.9	140.2	144.7	153.4	166.3	168.3	160.1	148.0	137.6	128.6	118.3	110.3
1913	110.9	112.6	113.3	113.6	116.2	121.2	122.9	125.4	126.3	130.1	133.9	132.7
Av. 1909–1913.	123.1	126.3	128.4	130.9	135.6	139.4	140.4	140.2	137.1	133.2	127.9	124.4
1914	132.5	132.1	132.8	134.2	135.9	138.6	137.7	137.6	141.3	136.6	127.4	122.8
1915	126.7	140.5	144.0	144.5	150.6	147.3	139.1	138.9	132.5	128.2	124.4	120.4
1916	129.0	139.9	138.6	140.2	143.3	145.8	144.6	147.7	161.5	163.6	176.9	187.9
1917	183.6	195.6	206.5	226.2	220.6	201.3	289.9	307.8	279.6	277.0	261.3	232.3
1918	264.1	271.6	288.8	288.6	281.8	271.9	272.9	260.6	263.3	259.3	260.5	265.2
1919	272.4	269.9	257.1	271.2	293.7	307.2	310.2	320.6	317.7	293.6	279.4	282.4
1920	296.7	311.0	314.3	334.1	362.1	380.4	374.0	338.8	304.7	246.7	221.1	185.5
Av. 1914–1920.	200.7	207.8	211.9	219.7	225.3	240.4	238.4	238.8	231.6	220.9	206.6	199.5
1921	196.3	161.4	147.5	138.3	138.7	134.6	130.6	129.6	134.5	137.3	121.4	120.6
1922	120.5	123.6	128.1	140.6	144.5	142.4	146.1	145.6	138.3	135.5	143.3	142.6
1923	154.7	158.2	163.9	169.1	175.0	173.6	129.5	109.1	102.6	122.5	123.6	109.3

[1] Based on prices 1st of month.

TABLE 729.—*Index numbers of crop and meat-animal prices, monthly and average, 1908–1923*—Continued.

MEAT ANIMALS.[2]

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	6.67	6.71	7.39	7.74	7.37	7.29	6.98	6.67	6.92	6.80	6.47	6.21
1911	6.40	6.19	6.69	5.80	5.54	5.45	5.52	5.87	5.87	5.58	5.44	5.37
1912	5.44	5.54	5.69	6.30	6.39	6.27	6.23	6.56	6.74	6.86	6.45	6.42
1913	6.40	6.70	7.08	7.35	7.08	7.19	7.25	7.20	7.15	7.14	6.94	6.85
Av. 1910–1913	6.23	6.28	6.56	6.80	6.60	6.55	6.50	6.58	6.67	6.60	6.32	6.21
1914	7.05	7.27	7.37	7.40	7.29	7.22	7.41	7.63	7.58	7.14	6.80	6.61
1915	6.57	6.46	6.46	6.59	6.80	6.85	6.83	6.74	6.77	6.96	6.45	6.25
1916	6.46	6.94	7.53	7.85	7.98	8.00	8.04	8.05	8.38	8.04	8.09	8.15
1917	8.53	9.42	10.70	11.71	11.84	11.72	11.47	11.84	12.79	13.04	12.47	12.74
1918	12.59	12.65	13.06	13.55	13.83	13.62	13.68	14.21	14.50	13.79	13.37	13.40
1919	13.46	13.51	14.06	15.01	15.34	14.98	15.61	15.56	13.44	12.22	11.88	11.54
1920	12.14	12.48	12.52	12.72	12.41	12.31	12.40	12.12	12.22	11.67	10.34	8.48
Av. 1914–1920	9.54	9.81	10.24	10.69	10.78	10.67	10.78	10.88	10.81	10.41	9.91	9.60
1921	8.42	8.24	8.67	7.89	7.66	7.31	7.65	7.94	7.11	6.88	6.47	6.37
1922	6.67	7.56	8.19	8.10	8.29	8.37	8.34	7.87	7.09	7.75	7.36	7.28
1923	7.48	7.51	7.48	7.52	7.38	7.01	7.16	7.14	7.68	7.27	6.80	.....

Division of Crop and Livestock Estimates. The trend of prices to farmers for important crops is indicated in the following figures; the base 100 is the average price December 1 in the 43 years 1866–1908 of wheat, corn, oats, barley, rye, buckwheat, potatoes, hay, flax, and cotton.

[2] Based on prices 15th of month.

PRICES, COST OF LIVING, AND WAGES.

TABLE 730.—*Index numbers of prices, cost of living, and wages, 1913–1924.*

(1913=100)

Calendar year.	Farm prices.[1]	Wholesale prices all commodities.[2]	Retail prices, 22 articles of food.[2]	Cost of living (32 cities).[3]	Farm labor.[1]	Union wages per hour May 15.[2]	Earnings New York State factory workers. June 1914=100.[4]
1913	100	100	100	100	100	100	.....
1914	100	98	102	[5] 103	99	102	[6] 100
1915	100	101	101	[5] 105	99	103	101
1916	120	127	114	[5] 118	108	107	114
1917	177	177	146	[5] 142	133	114	129
1918	199	194	168	[5] 174	161	133	160
1919	210	206	186	[5] 190	186	155	185
1920	196	226	203	[5] 200	214	199	222
1921	120	147	153	[5] 174	143	205	203
1922	123	149	142	[5] 170	138	193	197
1923	134	154	146	[5] 173	155	211	214
1922.							
March	124	142	139	167	.....	.....	193
June	126	150	141	167	.....	.....	196
September	116	153	140	166	.....	.....	202
December	131	156	147	170	.....	.....	208
1923.							
January	.....	156	144	.....	133	.....	.....
March	137	159	142	169	.....	.....	212
April	.....	159	143	.....	140	.....	.....
June	130	153	144	170	.....	.....	219
July	.....	151	147	.....	150	.....	.....
September	129	154	149	172	.....	.....	216
October	.....	153	150	.....	154	.....	.....
December	138	151	150	173	.....	.....	220

Division of Statistical and Historical Research.

[1] Bureau of Agricultural Economics.

[2] Bureau of Labor Statistics.

[3] Bureau of Labor Statistics. Food (22 items prior to 1921; 43 from Jan. 1921); heat and light (5 items); clothing (about 75 items varying from time to time); rent (representative number of moderate-priced houses); furniture and household articles (26 items), and 42 miscellaneous articles.

[4] New York State Department of Labor.

[5] December.

[6] June.

FEDERAL-AID HIGHWAYS.

TABLE 731.—*Federal-aid highways completed and under construction.*

State.	Highways completed and final payment made, year ending June 30, 1923.			Projects under construction June 30, 1923.[1]			
	Total cost.	Federal aid.	Miles.	Estimated cost.	Federal aid allotted.	Miles.	Federal aid paid.
Alabama	$671,989.33	$323,665.26	48.3	$9,637,083.55	$4,818,991.66	621.2	$1,609,407.36
Arizona	3,001,356.84	1,461,900.62	196.7	2,462,987.30	1,450,169.26	221.9	793,655.17
Arkansas	3,485,213.85	1,693,669.12	287.2	5,957,667.24	2,301,544.73	400.4	1,200,311.39
California	5,398,358.83	2,115,030.44	179.6	11,553,746.98	6,211,381.11	506.2	3,304,460.54
Colorado	3,000,990.82	1,504,905.48	205.8	3,611,943.47	1,938,815.44	166.0	864,425.75
Connecticut	2,221,161.60	862,238.07	47.6	1,119,033.84	482,031.50	24.9	175,251.55
Delaware	580,848.76	227,500.00	17.1	768,715.88	332,847.50	23.1	161,234.23
Florida				6,852,022.09	3,389,983.22	210.9	1,986,864.00
Georgia	1,497,036.74	727,424.90	194.7	7,478,068.80	3,697,204.31	690.1	1,745,014.75
Idaho	481,703.80	243,711.13	21.2	1,790,030.72	987,178.91	125.2	484,625.95
Illinois	1,786,917.22	745,389.16	40.5	5,083,205.90	2,539,138.88	178.1	443,419.06
Indiana	2,023,652.38	991,382.65	65.4	9,537,990.97	4,604,459.53	272.8	989,145.39
Iowa	6,840,865.05	2,544,257.86	570.5	10,781,078.08	5,132,734.89	1,012.1	2,222,250.43
Kansas	6,450,356.54	2,356,157.47	209.5	21,627,526.07	6,233,042.55	573.8	2,884,722.86
Kentucky	3,763,182.92	1,564,990.44	154.7	7,297,078.77	3,544,141.20	297.8	1,623,453.00
Louisiana	3,953,469.21	1,770,940.44	307.3	4,087,051.95	1,856,034.20	270.0	601,261.84
Maine	2,843,728.92	1,385,682.38	94.5	2,600,214.58	1,210,306.43	75.3	584,702.21
Maryland	501,419.37	252,224.67	18.0	2,066,898.17	937,896.50	75.4	413,771.21
Massachusetts	2,481,481.14	1,043,242.93	50.3	4,529,564.91	1,605,967.52	89.8	641,923.43
Michigan	5,909,824.20	2,663,624.18	201.4	10,009,739.26	4,922,779.22	371.0	1,594,633.60
Minnesota	9,346,816.31	3,942,445.27	752.5	7,205,828.87	3,124,098.36	638.6	1,552,076.25
Mississippi	1,670,058.49	830,830.40	161.9	6,899,526.97	3,423,192.39	405.8	1,584,834.48
Missouri	2,216,361.53	988,203.42	175.5	17,418,531.58	8,326,760.68	881.1	2,471,759.21
Montana	2,036,795.53	1,304,347.20	247.0	1,285,659.82	673,165.60	126.6	319,034.49
Nebraska	1,967,515.32	950,152.14	307.5	8,819,992.42	4,342,530.94	1,506.3	3,001,169.36
Nevada	1,105,451.57	684,451.05	88.0	2,771,308.14	2,300,452.11	250.9	803,759.89
New Hampshire	454,298.59	222,486.50	22.3	737,820.18	355,504.43	28.9	196,594.02
New Jersey	2,350,340.65	814,254.74	41.4	2,306,035.27	727,200.00	36.3	457,860.45
New Mexico	2,922,801.96	1,543,214.20	432.4	3,358,414.00	2,006,229.83	541.2	836,540.73
New York	6,102,604.56	2,672,443.79	179.8	23,778,809.63	9,495,436.00	597.0	2,912,775.58
North Carolina	6,038,489.94	2,719,747.81	424.1	7,313,686.90	2,682,737.95	245.3	849,983.97
North Dakota	3,778,519.60	1,852,719.87	480.8	4,200,474.39	2,092,645.08	848.7	1,095,836.29
Ohio	5,994,517.58	2,311,245.21	181.7	12,961,337.10	5,003,885.02	347.5	2,337,532.35
Oklahoma	7,397,461.54	3,299,821.31	285.3	5,431,676.52	2,462,291.78	244.4	1,219,039.86
Oregon	1,355,077.27	749,779.32	84.4	3,224,330.66	1,785,606.03	187.1	453,481.38
Pennsylvania	11,707,303.31	4,242,891.56	212.7	10,761,379.52	3,751,305.00	193.5	2,295,816.86
Rhode Island	199,620.46	97,554.50	6.6	712,437.22	308,245.34	16.0	
South Carolina	2,224,081.09	1,032,741.79	267.1	5,515,316.53	2,307,041.72	512.9	1,156,772.53
South Dakota	3,336,500.40	1,620,388.49	379.7	5,947,235.04	3,034,795.29	704.6	1,421,947.52
Tennessee	1,969,338.65	948,864.74	71.5	13,838,513.83	6,893,877.82	467.0	3,340,728.55
Texas	17,587,951.21	6,359,362.61	1,153.7	23,409,117.28	8,531,877.45	1,581.9	4,386,567.45
Utah	1,626,103.26	929,937.78	95.2	3,752,495.25	2,241,180.92	273.0	1,228,705.01
Vermont	830,212.33	405,469.93	31.2	1,068,146.61	534,073.27	39.0	198,925.94
Virginia	4,130,598.17	1,940,269.08	228.1	8,272,256.14	4,044,175.46	325.7	1,294,483.89
Washington	2,331,237.15	1,035,846.59	66.1	1,830,166.24	873,450.00	57.2	211,564.65
West Virginia	1,412,851.18	606,768.63	71.8	5,221,761.81	2,276,610.53	179.4	1,262,478.39
Wisconsin	4,981,951.39	2,128,524.04	397.0	3,382,673.79	1,435,069.13	278.7	489,613.67
Wyoming	2,141,261.41	1,006,683.44	218.2	3,717,105.10	2,136,471.51	290.5	829,455.14
United States	166,802,207.97	71,681,382.67	9,973.9	323,994,579.34	145,517,158.20	18,011.1	62,538,931.33

Bureau of Public Roads.

[1] Includes 3,239.4 miles of practically completed projects.

TABLE 732.—*Highways: Federal aid projects completed, by types, 1918–1923.*

Year ending June 30.	Graded and drained.			Sand-clay.		
	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18						
1918–19	$11,808.24	$4,738.04	16.0	$126,885.24	$63,321.17	46.8
1919–20	661,851.41	298,998.04	203.0	384,811.91	181,107.89	90.0
1920–21	2,308,794.90	1,021,277.45	349.9	2,401,929.18	1,075,989.00	384.2
1921–22	17,134,140.97	7,055,998.94	1,635.5	9,208,939.93	4,233,269.25	1,111.8
1922–23	14,569,579.11	6,316,326.91	1,966.0	8,120,872.33	3,896,298.34	1,016.7
Totals	34,706,174.63	14,696,947.38	4,164.4	20,242,438.59	9,449,986.65	2,649.4

Year ending June 30.	Gravel.			Water-bound macadam.		
	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18						
1918–19	$236,623.22	$103,891.64	55.2			
1919–20	1,795,314.86	778,582.85	247.8	$139,131.96	$69,241.84	11.7
1920–21	9,839,752.94	4,266,225.54	1,201.4	560,631.81	254,980.50	40.5
1921–22	35,333,778.98	15,854,797.65	3,445.3	4,279,366.52	1,937,921.56	286.6
1922–23	46,479,134.23	20,867,363.64	4,404.0	5,987,050.01	2,578,843.54	287.5
Totals	93,684,604.25	41,872,860.72	9,442.7	10,966,180.30	4,740,987.53	626.5

Year ending June 30.	Bituminous macadam.			Bituminous concrete.		
	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18				$136,715.94	$59,571.76	6.8
1918–19	$41,237.10	$11,620.00	1.2	347,484.00	162,622.93	19.5
1919–20	205,783.73	100,882.07	11.0	460,980.99	195,509.11	19.7
1920–21	3,428,606.06	1,576,154.47	148.9	4,580,101.11	2,005,818.94	159.1
1921–22	8,854,811.29	3,822,667.03	294.5	13,533,187.30	5,221,434.96	392.8
1922–23	14,640,388.38	6,355,525.91	468.1	4,829,129.82	2,071,446.10	131.0
Totals	27,170,826.56	11,866,879.48	923.6	23,886,699.16	9,716,403.80	728.9

Year ending June 30.	Portland cement concrete			Brick.		
	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18	$121,015.43	$52,685.22	5.7			
1918–19	599,228.74	217,917.11	25.2	$702,502.04	$194,361.28	18.8
1919–20	2,729,185.04	1,189,723.28	110.3	839,373.33	261,104.00	21.8
1920–21	16,490,885.57	7,374,916.37	494.6	1,520,655.96	391,123.05	26.8
1921–22	84,788,065.27	35,844,590.98	2,126.9	9,680,179.46	3,100,843.36	205.6
1922–23	63,858,248.33	26,021,235.74	1,621.4	2,998,868.14	1,063,446.49	69.0
Totals	168,586,728.38	70,700,168.70	4,384.0	15,741,578.93	5,010,878.18	342.0

Year ending June 30.	Bridges.			All types.		
	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18				$257,731.37	$112,256.98	12.5
1918–19	$59,004.90	$10,000.00	0.2	2,124,873.48	768,472.17	176.8
1919–20	169,467.28	84,733.45	0.9	7,403,000.53	3,159,790.53	716.1
1920–21	1,018,723.83	494,474.58	4.2	42,149,181.36	18,462,089.99	2,898.5
1921–22	6,153,276.71	2,844,952.47	20.0	188,965,646.43	79,816,175.60	9,519.3
1922–23	5,318,937.62	2,510,895.00	10.3	166,802,207.97	71,681,382.67	9,973.9
Totals	12,719,410.34	5,945,055.50	35.6	407,704,641.14	174,000,167.94	23,297.2

Bureau of Public Roads.

TABLE 733.—*Wages per hour paid common labor for road work, 1915–1923.*[1]

Calendar year.	United States average.	New England.	Middle Atlantic.	South Atlantic.	East South Central.	West South Central.	East North Central.	West North Central.	Mountain.	Pacific.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1915	20	20	.....	14	12	16	21	25	26	26
1916	23	25	24	16	13	17	24	28	29	28
1917	28	31	30	21	17	21	29	34	36	36
1918	36	39	38	27	23	28	39	45	44	45
1919	41	41	41	32	28	36	43	53	47	52
1920	49	49	50	37	32	40	53	62	55	60
1921	36	38	35	26	25	28	35	45	46	50
1922	32	39	36	21	20	24	31	31	37	43
1923[2]	35	49	43	22	21	24	35	32	40	49

Bureau of Public Roads. [1] Average of monthly reports. [2] For the first six months of 1923.

TABLE 734.—*Highway maintenance: Expenditures reported by States on Federal-aid highways, calendar year 1922.*

State.	General maintenance.			Betterment.			Reconstruction.		
	Number of projects.	Miles.	Total expenditure.	Number of projects.	Miles.	Total expenditure.	Number of projects.	Miles.	Total expenditure.
Alabama	49	332.2	$41,184.89	5	36.9	$29,189.86	.....	.....	.....
Arizona	33	368.3	98,900.76	.....	.....	.....	.....	.....	.....
Arkansas	56	595.8	76,974.45	.....	.....	.....	.....	.....	.....
California	44	394.9	222,771.60	16	143.9	154,541.09	9	70.8	$25,062.27
Colorado	93	393.6	81,219.31	.....	.....	.....	.....	.....	.....
Connecticut	5	36.4	12,801.65	.....	.....	.....	.....	.....	.....
Delaware	7	42.3	10,451.78	.....	.....	.....	.....	.....	.....
Florida	10	48.7	15,746.64	.....	.....	.....	.....	.....	.....
Georgia[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....
Idaho	38	413.7	87,699.81	13	219.4	66,678.68	2	58.0	12,724.30
Illinois[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indiana	22	142.6	16,236.72	.....	.....	.....	.....	.....	.....
Iowa	84	1,080.6	343,815.58	9	137.7	151,227.41	.....	.....	.....
Kansas	44	283.3	44,796.05	4	20.2	15,691.85	.....	.....	.....
Kentucky	29	231.0	67,198.52	7	48.2	21,997.63	.....	.....	.....
Louisana	44	544.8	246,918.00	3	38.1	14,069.09	.....	.....	.....
Maine	25	106.9	41,083.44	1	3.9	7,317.43	.....	.....	.....
Maryland	44	107.4	76,484.97	.....	.....	.....	.....	.....	.....
Massachusetts	55	153.3	59,414.83	2	4.6	9,799.39	.....	.....	.....
Michigan	47	375.5	87,376.44	.....	.....	.....	.....	.....	.....
Minnesota	158	1,664.3	367,688.00	112	1,297.5	742,902.00	39	574.4	132,582.00
Mississippi	53	529.3	54,338.19	.....	.....	.....	.....	.....	.....
Missouri	17	110.9	12,397.75	1	1.7	1,200.00	.....	.....	.....
Montana	67	583.2	66,229.37	5	42.6	28,447.22	1	19.6	13,018.09
Nebraska	10	144.0	33,740.45	1	11.0	6,181.87	1	20.4	369.83
Nevada	20	168.1	37,034.54	2	7.6	17,800.41	.....	.....	.....
New Hampshire	116	123.9	82,941.41	.....	.....	.....	.....	.....	.....
New Jersey	21	80.1	41,999.17	.....	.....	.....	.....	.....	.....
New Mexico	46	617.9	99,960.85	11	112.8	49,893.38	.....	.....	.....
New York	41	154.0	18,776.82	3	7.7	597.19	.....	.....	.....
North Carolina	98	820.8	222,026.48	18	188.7	1,889,192.66	1	8.9	5,632.00
North Dakota	50	542.2	35,884.57	.....	.....	.....	.....	.....	.....
Ohio	128	580.8	222,927.84	.....	.....	.....	.....	.....	.....
Oklahoma	46	279.2	74,473.55	1	0.6	752.84	.....	.....	.....
Oregon	40	448.6	137,743.98	19	242.0	666,702.91	.....	.....	.....
Pennsylvania[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rhode Island	5	15.8	2,044.73	.....	.....	.....	.....	.....	.....
South Carolina[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Dakota	36	439.2	58,791.01	2	40.2	5,741.42	.....	.....	.....
Tennessee	21	246.3	41,138.25	2	22.6	38,926.43	.....	.....	.....
Texas[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utah	18	290.4	25,542.48	.....	.....	.....	.....	.....	.....
Vermont	20	49.0	13,310.69	.....	.....	.....	.....	.....	.....
Virginia	79	382.5	136,144.59	.....	.....	.....	.....	.....	.....
Washington	84	402.7	163,761.01	9	35.2	691,558.91	.....	.....	.....
West Virginia	77	233.0	152,489.21	28	112.7	202,935.27	1	.8	5,800.00
Wisconsin	239	1,014.3	185,005.74	82	133.6	334,284.21	13	76.1	31,202.64
Wyoming	60	568.9	99,962.58	.....	.....	.....	.....	.....	.....
Total	2,279	16,200.7	4,017,437.70	306	2,918.4	5,147,629.15	67	829.0	226,451.13
Expenditures per mile	.....	.....	248.00	.....	.....	1,764.00	.....	.....	273.00

Bureau of Public Roads. [1] Not reported.

HUNTERS' LICENSES.

TABLE 735.—*Hunters' licenses issued by States in 1922, for season 1922–23.*

State.	Licenses issued.			Total money returns.[1]
	Resident.	Non-resident.	Alien.	
Alaska [2]		20		$1,000.00
Alabama	21,585	189		27,854.00
Arizona [3]	18,046	88		24,187.50
Arkansas	3,636	2,625		14,411.90
California	221,561	356	874	236,891.00
Colorado [3]	79,272	133		160,955.50
Connecticut	32,051	365	178	38,371.00
Delaware [3]		218		2,180.00
Florida [4]				
Georgia	15,138	179		33,511.00
Idaho [3]	61,246	557	69	[5] 114,047.55
Illinois	248,000	500		180,336.38
Indiana [3]	164,632	173		170,066.80
Iowa	113,734	262		116,354.00
Kansas	74,330	37		74,885.00
Kentucky	75,090	251		[5] 65,594.85
Louisiana	104,159	301		110,024.00
Maine	[6] 17,587	3,142	77	45,326.75
Maryland	68,821	1,464		[5] 112,062.62
Massachusetts	81,200	736	158	[5] 132,298.10
Michigan	251,758	1,778		247,811.80
Minnesota	134,676	790		158,564.30
Mississippi [4]				
Missouri [3]	102,275	228		134,678.00
Montana	55,573	107	3	105,410.05
Nebraska [3]	110,000	227	15	112,595.00
Nevada	4,533			6,799.50
New Hampshire [3]	57,456	2,418		92,726.00
New Jersey [3]	133,357	1,372		200,035.50
New Mexico	9,353	336		19,798.50
New York	286,568	2,305		[5] 298,268.00
North Carolina [4]				
North Dakota	31,818	68		49,427.00
Ohio	311,914	165		
Oklahoma	76,102	243		79,747.00
Oregon [3]	47,090	404		172,742.00
Pennsylvania	473,735	2,126		[5] 446,607.00
Rhode Island	10,959	97	50	12,679.00
South Carolina	75,707	621		
South Dakota	44,714	1,568		52,015.00
Tennessee	19,364	334		[5] 26,248.80
Texas	32,317	156		66,974.00
Utah [3]	78,600			138,000.00
Vermont [3]	36,145	819		39,382.50
Virginia	96,648	1,577	1	151,628.00
Washington [3]	155,698	2,117	174	281,187.50
West Virginia	75,062	373		80,557.50
Wisconsin	178,757	529		196,482.00
Wyoming [3]	17,488	387	2	47,277.00
Total	4,307,096	32,831	1,601	4,884,099.50

Bureau of Biological Survey.

[1] Money returns do not include amounts received from licenses to fish only.
[2] No resident licenses.
[3] Combination hunting and fishing licenses.
[4] Figures not available.
[5] Net.
[6] Licenses good as long as holder remains a resident; 136,414 issued previous to Jan. 1, 1923.

METEOROLOGICAL STATISTICS.

TABLE 736.—*Temperature: Monthly normal[1] and mean temperature, at selected points in the United States, 1912–1923.*

Station.	Normal for Jan.	January monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	33.9	31.2	35.0	45.4	34.0	35.2	36.6	30.7	28.7	35.2	41.0	34.0	46.2
Atlanta, Ga.	42.6	37.6	49.5	45.0	41.9	48.8	47.9	34.8	43.8	42.7	45.9	43.0	48.2
Birmingham, Ala.	45.3	39.8	52.0	47.4	42.8	51.2	49.4	36.6	43.9	46.2	49.3	45.9	51.8
Bismarck, N. Dak.	7.8	−.9	5.6	17.9	9.2	−5.0	6.3	1.4	24.4	7.4	18.8	8.4	12.3
Boise, Idaho.	29.8	28.8	28.0	37.8	27.6	27.4	23.2	34.4	32.8	30.1	34.8	20.6	35.5
Boston, Mass.	27.9	21.4	39.2	28.7	33.0	33.0	30.2	21.0	33.2	21.0	32.1	27.2	27.0
Brownsville, Tex.	59.4	57.4	58.6	62.6	58.8	67.2	62.6	58.0	56.0	58.2	65.8	57.8	67.6
Buffalo, N. Y.	24.6	15.6	33.8	27.9	25.3	32.0	24.4	14.1	31.0	15.6	29.1	23.2	25.4
Canton, N. Y.	16.3	4.8	26.8	13.0	19.4	25.0	14.4	7.5	22.0	4.1	20.9	12.8	10.8
Charleston, S. C.	49.9	45.8	58.3	50.0	49.7	55.9	54.6	42.4	51.1	51.0	51.8	47.4	53.7
Charlotte, N. C.	41.2	34.7	48.8	43.8	41.6	47.6	46.1	32.4	45.0	39.8	42.2	40.2	44.6
Cheyenne, Wyo.	25.5	27.7	24.4	31.4	25.8	17.6	21.8	19.8	31.8	33.5	28.2	21.0	32.2
Chicago, Ill.	25.1	11.9	29.3	32.4	24.1	28.8	24.2	13.3	31.0	18.8	32.4	24.8	30.8
Cincinnati, Ohio.	30.3	22.0	40.6	37.8	31.4	37.6	32.4	16.3	35.2	25.4	35.9	29.2	36.5
Cleveland, Ohio.	26.5	15.8	35.3	32.0	26.0	34.8	27.3	15.0	32.6	19.0	32.0	25.6	30.2
Concordia, Kans.	24.4	16.0	27.0	36.2	26.5	21.5	28.8	15.3	33.6	30.2	36.2	27.0	37.2
Des Moines, Iowa.	20.1	6.2	23.5	29.6	20.8	20.8	20.0	11.8	29.8	18.4	30.4	22.6	29.3
Devils Lake, N. Dak.	.3	−8.3	−1.4	9.6	2.6	−8.2	−3.0	−4.6	14.4	−2.3	10.5	4.1	6.0
Dodge City, Kans.	29.0	18.0	29.4	39.4	30.6	23.8	31.3	21.1	31.9	32.8	36.4	28.6	39.0
Dubuque, Iowa.	19.1	3.8	22.7	28.2	17.2	21.6	16.6	8.2	25.9	13.4	28.5	19.7	25.8
Duluth, Minn.	7.9	−7.2	6.3	15.4	9.2	5.1	3.1	0.8	17.8	3.0	16.6	8.6	13.0
El Paso, Tex.	44.1	45.7	40.3	48.4	41.2	50.4	44.8	41.5	40.7	44.5	48.6	43.5	49.1
Eureka, Calif.	46.9	49.6	42.7	49.6	48.8	43.0	42.6	48.4	49.0	47.9	45.6	48.2	46.9
Evansville, Ind.	32.3	23.8	39.4	39.6	31.5	38.6	36.3	19.4	38.5	30.4	39.4	32.3	40.8
Fort Worth, Tex.	44.3	40.6	46.1	53.0	45.4	46.2	48.6	36.8	45.8	43.0	51.4	43.0	55.5
Fresno, Calif.	45.4	48.5	44.5	50.0	47.4	45.6	42.8	46.4	48.2	48.2	46.4	41.7	46.2
Galveston, Tex.	53.6	49.2	54.6	57.0	51.2	58.4	56.6	47.8	50.6	54.0	58.2	52.0	62.0
Grand Rapids, Mich.	23.8	11.8	28.2	29.0	23.3	28.7	22.8	12.5	30.0	16.0	30.5	23.6	26.2
Greenville, Me.	12.8	4.1	20.4	9.7	16.4	15.1	12.4	6.4	15.6	4.6	15.2	11.0	8.7
Havre, Mont.	12.9	10.1	6.9	18.8	11.4	−13.3	11.2	10.8	34.1	13.0	26.0	13.8	19.4
Indianapolis, Ind.	28.4	17.2	35.1	34.6	26.8	33.8	30.6	14.6	34.0	22.2	34.3	26.7	34.6
Iola, Kans.	27.6	20.6	30.6	37.2	30.4	28.5	33.7	17.6	33.6	30.5	38.4	30.0	40.6
Jacksonville, Fla.	55.4	52.6	63.6	55.2	.....	62.4	61.2	50.0	55.3	57.3	58.0	53.4	59.2
Kalispell, Mont.	19.6	20.0	18.2	29.2	20.2	4.4	20.1	21.8	26.8	24.2	26.1	16.9	27.4
Little Rock, Ark.	41.4	35.2	45.1	47.0	40.2	45.2	45.0	28.6	43.2	40.8	47.2	39.8	49.7
Los Angeles, Calif.	54.6	50.0	52.1	56.8	55.9	50.8	51.2	55.7	60.2	56.6	54.1	53.4	58.1
Lynchburg, Va.	37.5	29.0	45.2	42.0	38.4	43.2	39.4	27.0	41.0	34.4	39.0	35.1	39.8
Madison, Wis.	16.7	1.2	19.4	25.9	15.4	20.2	13.8	5.6	24.1	10.0	25.4	17.0	22.0
Marquette, Mich.	15.9	1.3	17.7	21.8	16.3	17.4	12.6	8.8	24.6	9.2	23.4	17.2	19.2
Memphis, Tenn.	40.9	34.6	46.0	46.1	39.4	46.2	44.7	27.6	43.0	39.3	47.2	40.0	49.2
Miami, Fla.	67.3	68.0	72.4	64.4	67.0	72.0	69.8	62.8	65.1	68.6	67.8	67.6	68.8
Mobile, Ala.	52.2	47.8	57.4	53.6	49.6	57.2	57.2	45.7	49.6	53.6	56.0	53.0	58.4
Modena, Utah.	27.5	28.7	23.9	32.2	24.2	24.4	13.6	28.2	25.6	28.7	28.7	16.6	33.5
Nashville, Tenn.	38.6	32.3	45.4	42.6	36.2	44.6	41.8	26.4	40.1	38.6	43.2	38.9	45.0
New Orleans, La.	54.2	50.2	59.9	56.6	51.8	61.3	59.8	48.1	51.2	56.0	59.2	56.0	61.0
Norfolk, Va.	40.6	33.5	51.2	44.1	42.2	47.0	42.8	31.6	43.8	37.4	43.6	39.2	43.9
North Platte, Nebr.	22.9	13.9	23.7	34.0	20.1	15.0	22.8	14.8	28.6	28.9	30.1	21.6	32.9
Oklahoma City, Okla.	34.7	30.2	37.0	45.4	37.1	33.4	39.0	25.0	38.4	35.2	43.0	35.2	47.8
Omaha, Nebr.	21.9	10.4	23.8	30.6	21.6	17.2	22.6	12.7	31.9	23.2	32.0	23.6	32.5
Parkersburg, W. Va.	31.3	22.4	42.2	37.6	31.9	38.8	33.2	20.3	35.6	28.4	37.4	31.8	37.0
Peoria, Ill.	23.1	11.0	27.8	32.2	21.0	27.2	24.4	10.4	29.2	18.6	32.2	23.8	31.8
Phoenix, Ariz.	50.0	53.0	47.2	54.8	50.0	50.8	49.0	49.6	50.8	53.3	52.0	48.6	55.4
Pierre, S. Dak.	16.0	7.0	18.6	25.5	15.6	2.4	14.8	8.0	29.7	19.0	27.9	−13.6	24.9
Pittsburgh, Pa.	30.7	20.4	40.2	34.4	30.6	37.5	31.6	18.6	34.4	24.4	34.6	28.8	33.4
Portland, Oreg.	39.4	41.4	38.2	45.8	39.2	29.6	39.6	45.4	42.2	39.4	41.6	35.2	42.8
Pueblo, Colo.	29.1	26.1	29.0	38.6	29.6	27.1	30.1	22.8	30.8	35.0	35.4	26.1	39.0
Roseburg, Oreg.	41.2	45.4	38.4	45.4	40.3	35.8	38.0	45.8	41.3	41.2	42.0	37.2	42.6
Sacramento, Calif.	45.8	47.4	44.2	48.8	46.3	43.6	42.4	47.5	46.2	46.8	46.2	40.6	43.8
St. Louis, Mo.	30.8	20.4	34.8	39.7	29.6	34.1	34.8	18.8	37.8	28.4	39.2	30.2	39.5
St. Paul, Minn.	12.6	−2.0	13.8	21.2	12.4	10.4	6.8	3.7	21.8	7.0	21.4	12.8	17.6
Salt Lake City, Utah.	29.2	34.4	26.9	35.2	28.2	29.4	21.2	30.4	32.0	30.8	35.7	22.2	36.0
San Antonio, Tex.	51.1	48.8	52.4	56.4	50.6	56.2	55.2	47.0	49.7	49.4	58.4	49.4	62.0
San Diego, Calif.	54.3	57.0	50.6	56.3	55.2	52.5	51.6	54.4	56.6	54.6	53.6	52.5	56.3
San Francisco, Calif.	49.9	51.8	47.4	51.5	50.8	47.0	47.6	52.7	51.2	52.2	49.5	46.8	48.1
Santa Fe, N. Mex.	28.8	28.9	24.8	33.5	24.4	30.6	28.0	20.2	24.4	33.9	32.4	28.0	34.9
Scranton, Pa.	27.2	19.4	37.2	28.2	30.2	33.6	28.4	17.4	31.7	18.7	29.4	24.1	26.8
Seattle, Wash.	39.3	42.6	36.6	43.2	40.6	31.0	38.0	43.7	41.4	40.2	40.4	35.5	40.4
Sheridan, Wyo.	18.9	17.0	14.4	29.2	17.8	1.8	18.2	15.6	27.9	22.8	27.6	11.6	26.4
Shreveport, La.	46.2	42.2	50.5	52.6	45.2	51.6	50.5	38.2	46.0	46.2	53.4	44.6	55.9
Springfield, Mo.	31.3	23.7	34.2	39.5	32.2	33.8	36.0	18.4	36.6	31.4	39.8	31.8	42.7
Thomasville, Ga.	51.0	48.4	59.4	52.2	51.0	60.1	58.2	46.0	51.4	53.9	55.6	51.6	56.8
Trenton, N. J.	30.5	24.6	40.8	32.2	34.0	35.5	32.4	20.4	34.8	23.2	33.4	28.4	31.0
Walla Walla, Wash.	33.2	31.2	32.0	45.6	30.8	18.6	34.0	39.8	36.8	31.6	37.8	23.0	40.8
Washington, D. C.	33.4	25.0	43.6	38.6	35.6	39.8	35.0	23.7	38.1	28.7	36.6	32.0	36.8
Winnemucca, Nev.	28.6	32.0	25.2	34.6	29.3	22.1	11.8	31.8	29.2	31.5	32.6	14.8	30.4

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal[1] and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Feb.	February monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	37.2	35.6	31.6	38.2	41.4	43.5	40.6	44.0	37.9	40.5	41.6	40.8	36.3
Atlanta, Ga.	45.3	40.0	45.4	43.1	45.8	44.1	44.4	50.8	44.4	41.6	48.1	50.1	43.7
Birmingham, Ala.	48.3	42.2	46.0	44.4	47.8	45.6	47.8	52.6	46.0	44.5	50.0	52.8	45.8
Bismarck, N. Dak.	10.3	14.2	13.0	5.3	20.6	11.8	1.8	14.2	10.0	17.2	22.8	2.2	7.4
Boise, Idaho	34.8	36.7	31.3	36.0	40.8	38.6	30.5	36.0	35.8	35.4	35.3	31.9	30.7
Boston, Mass.	28.8	27.7	27.7	24.3	33.2	25.5	25.8	26.9	32.6	27.6	32.6	32.0	28.4
Brownsville, Tex.	62.9	59.3	59.6	62.8	64.3	64.8	66.3	65.2	62.6	65.4	63.8	66.7	62.5
Buffalo, N. Y.	24.3	19.6	22.2	16.9	29.6	18.9	18.0	23.1	28.8	19.9	29.4	27.1	20.7
Canton, N. Y.	18.0	12.3	13.1	8.3	20.8	11.6	9.5	15.6	21.8	15.4	20.9	20.1	9.2
Charleston, S. C.	52.4	46.2	54.0	48.6	51.5	52.0	50.8	55.2	51.6	48.2	53.6	56.4	50.3
Charlotte, N. C.	43.9	38.8	44.4	39.6	45.7	43.6	42.9	48.6	42.8	39.8	45.5	48.4	42.2
Cheyenne, Wyo.	27.3	25.2	18.6	25.6	31.2	31.8	27.2	29.4	25.6	26.8	30.2	23.9	23.9
Chicago, Ill.	27.4	21.8	24.8	20.2	34.5	25.0	19.8	27.2	30.5	25.8	33.4	29.4	22.3
Cincinnati, Ohio	32.8	26.7	32.0	27.4	40.1	29.6	29.0	34.5	34.4	30.6	37.0	36.0	28.3
Cleveland, Ohio	27.4	21.1	24.4	19.8	32.8	23.0	21.3	28.2	31.3	24.5	32.1	31.7	23.8
Concordia, Kans.	26.8	29.2	25.4	26.6	35.1	28.2	28.6	32.6	30.9	33.9	39.6	31.0	30.9
Des Moines, Iowa	23.7	19.6	22.4	19.7	31.6	21.3	19.2	26.4	26.5	25.3	33.2	26.4	22.4
Devils Lake, N. Dak.	4.5	8.2	4.1	−3.6	15.4	3.2	−3.8	8.6	3.6	8.0	15.4	−.4	2.0
Dodge City, Kans.	33.2	32.0	24.8	30.0	39.0	34.9	32.1	37.5	31.9	35.1	38.7	34.6	32.0
Dubuque, Iowa.	22.2	17.1	20.4	15.8	30.2	20.1	14.2	23.0	25.7	21.1	29.8	23.8	18.3
Duluth, Minn.	11.4	8.8	5.6	2.7	20.6	7.0	1.8	10.8	13.8	12.4	19.0	7.6	5.4
El Paso, Tex.	48.9	46.4	45.7	49.0	47.8	53.4	48.8	51.8	46.0	53.4	49.4	50.5	46.5
Eureka, Calif.	46.8	48.9	44.6	47.9	48.4	50.4	44.2	47.0	47.0	46.0	47.8	45.0	45.7
Evansville, Ind.	35.8	29.2	33.6	29.9	41.2	34.3	32.5	37.3	37.7	35.0	40.0	38.9	32.6
Fort Worth Tex.	48.1	45.6	43.8	44.3	52.2	48.8	49.9	52.0	47.3	50.4	52.0	52.5	46.4
Fresno, Calif.	49.2	53.0	50.6	52.2	52.2	54.9	51.4	51.4	49.5	52.2	51.5	49.6	50.2
Galveston, Tex.	56.3	52.0	55.0	52.8	56.9	58.3	57.2	57.0	55.4	58.8	58.0	59.9	56.3
Grand Rapids, Mich.	25.5	18.2	21.0	15.8	31.1	21.1	17.4	22.4	28.5	21.2	30.0	27.5	19.6
Greenville, Me.	12.4	14.0	10.4	5.9	20.4	11.9	9.1	10.2	18.2	15.0	16.3	14.8	7.3
Havre, Mont.	13.6	22.8	13.7	7.6	16.6	14.2	6.8	17.8	14.9	21.3	28.8	.4	13.6
Indianapolis, Ind.	31.1	22.8	27.4	21.8	37.0	28.0	25.1	31.9	33.2	29.2	36.2	33.4	26.0
Iola, Kans.	32.2	30.2	27.8	30.0	39.6	32.2	31.8	34.8	35.1	36.8	41.8	36.4	32.2
Jacksonville, Fla.	58.0	52.5	58.4	55.3	------	57.2	56.8	62.8	57.6	53.9	59.6	62.0	58.0
Kalispell, Mont.	23.8	28.0	17.0	22.3	28.4	24.4	22.0	21.7	23.0	25.9	30.2	15.4	17.0
Little Rock, Ark.	44.9	38.9	42.4	41.8	46.4	44.0	44.8	48.0	45.0	46.2	49.0	48.2	42.4
Los Angeles, Calif.	55.5	59.8	53.8	59.4	54.7	58.7	55.3	56.0	53.6	57.6	57.4	54.0	56.6
Lynchburg, Va.	40.3	34.4	40.2	35.2	42.2	38.8	36.9	41.2	39.8	35.4	41.4	42.0	37.8
Madison, Wis.	19.1	14.6	15.6	12.1	27.7	17.1	11.1	19.5	23.7	18.4	26.4	20.3	15.0
Marquette, Mich.	15.9	11.6	11.1	11.6	25.4	13.9	6.4	12.8	23.3	15.6	23.5	17.0	12.4
Memphis, Tenn.	44.3	37.1	42.0	40.2	46.0	42.5	43.2	46.8	44.6	43.6	47.6	47.2	41.0
Miami, Fla.	68.8	62.8	70.8	67.4	65.6	65.7	64.8	70.4	66.6	64.2	66.8	70.3	69.8
Mobile, Ala.	55.2	49.2	54.0	52.0	53.3	53.0	54.4	59.4	53.6	53.2	56.0	59.4	53.6
Modena, Utah.	31.6	33.4	27.6	32.6	31.8	36.1	26.2	31.8	29.4	31.8	34.6	29.0	22.0
Nashville, Tenn.	41.6	35.6	39.6	38.0	44.0	39.1	39.8	44.7	41.2	39.4	45.1	45.0	38.5
New Orleans, La.	57.3	51.5	54.6	53.2	56.2	56.6	58.8	63.0	56.6	56.6	60.2	62.7	57.0
Norfolk, Va.	42.7	38.0	43.0	38.6	45.4	41.1	38.8	43.7	42.6	38.0	45.0	44.8	39.2
North Platte, Nebr.	26.6	28.6	20.6	23.3	29.7	28.8	26.8	32.1	23.6	29.6	34.3	24.3	28.2
Oklahoma City, Okla.	38.5	37.4	32.4	36.7	43.8	39.3	39.1	43.1	40.2	42.2	44.2	42.8	38.0
Omaha, Nebr.	25.5	23.2	23.6	21.4	31.0	23.6	21.6	27.5	27.8	28.9	35.8	24.8	25.6
Parkersburg, W. Va.	33.9	26.6	32.2	27.6	39.7	30.0	30.8	36.8	35.8	32.1	38.2	38.4	31.2
Peoria, Ill.	25.9	20.8	24.4	19.3	35.4	24.4	20.8	27.9	30.8	27.6	34.4	29.9	23.2
Phoenix, Ariz.	54.4	56.2	53.1	55.1	53.8	59.6	53.8	55.2	51.2	57.6	57.6	54.4	55.3
Pierre, S. Dak.	18.6	21.5	18.6	10.4	23.4	19.2	10.4	20.2	14.0	26.1	32.3	9.6	18.7
Pittsburgh, Pa.	32.3	24.7	28.8	24.3	36.8	26.8	27.0	32.7	33.5	28.2	35.6	35.2	27.4
Portland, Oreg.	42.1	45.3	39.7	43.4	45.4	42.2	41.5	41.6	42.6	42.2	45.2	39.9	37.4
Pueblo, Colo.	31.6	32.3	24.6	32.0	36.5	36.0	35.4	37.4	30.9	34.8	38.2	33.2	29.6
Roseburg, Oreg.	43.4	46.9	40.4	44.5	45.0	43.8	41.2	43.4	43.2	41.2	46.4	41.2	41.6
Sacramento, Calif.	50.1	53.1	50.0	51.1	51.0	53.8	50.0	49.3	48.4	50.4	50.9	47.1	50.2
St. Louis, Mo.	34.5	28.0	31.9	27.4	40.5	32.8	30.4	35.6	36.7	34.8	42.1	36.4	30.4
St. Paul, Minn.	15.8	14.6	12.9	8.0	25.5	11.5	6.2	17.4	17.0	15.5	23.8	11.0	9.8
Salt Lake City, Utah.	33.8	37.0	31.8	34.5	38.2	36.0	28.6	31.7	34.2	37.4	36.8	29.8	26.6
San Antonio, Tex.	54.4	51.4	52.9	53.2	58.4	58.6	57.6	56.6	53.0	57.7	58.4	58.2	52.0
San Diego, Calif.	55.1	56.2	53.4	57.4	55.4	56.4	54.7	55.1	53.6	56.8	55.2	53.7	55.2
San Francisco, Calif.	52.3	54.6	52.4	54.0	52.8	55.8	52.0	51.8	51.6	52.8	52.9	50.2	52.2
Santa Fe, N. Mex.	33.1	30.3	29.2	32.6	32.4	36.9	32.8	35.8	27.2	37.5	34.8	32.2	32.2
Scranton, Pa.	28.5	24.6	26.4	19.8	33.2	23.6	24.1	26.8	32.3	24.8	31.6	31.5	23.0
Seattle, Wash.	40.3	43.9	40.0	42.3	44.5	41.9	39.3	40.0	40.8	40.3	42.9	39.4	37.3
Sheridan, Wyo.	32.4	22.5	12.0	30.6	32.5	22.0	20.5	28.1	21.6	27.0	31.9	11.4	16.8
Shreveport, La.	50.0	45.3	47.4	46.4	51.4	50.6	51.6	55.1	49.6	51.8	53.6	54.0	48.4
Springfield, Mo.	33.6	29.4	31.0	31.2	39.8	34.0	33.0	37.6	35.3	36.9	42.4	38.2	32.9
Thomasville, Ga.	55.0	48.4	54.0	51.4	52.8	54.4	53.2	60.5	53.8	50.6	56.4	61.2	55.6
Trenton, N. J.	30.7	------	32.6	25.6	36.0	27.8	28.5	30.0	34.4	28.3	34.2	34.2	28.4
Walla Walla, Wash.	36.4	41.0	29.8	36.3	42.0	32.6	36.9	38.7	39.0	37.1	40.7	33.4	29.8
Washington, D. C.	35.3	31.0	36.6	30.1	38.8	34.2	32.8	36.8	37.2	32.7	39.0	38.	32.6
Winnemucca, Nev.	33.5	36.0	31.6	36.4	37.6	37.4	28.9	32.1	33.4	34.5	36.6	26.9	27.7

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal[1] and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Mar.	March monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	45.0	39.3	43.3	47.3	37.2	53.7	46.2	52.6	46.4	47.2	52.0	45.3	42.8
Atlanta, Ga.	52.0	49.9	53.0	48.6	48.6	50.7	52.6	59.2	54.0	49.6	61.1	53.6	52.1
Birmingham, Ala.	55.2	51.5	54.6	50.1	45.4	52.8	56.2	61.8	55.5	52.1	64.0	55.4	54.0
Bismarck, N. Dak.	24.2	16.0	20.8	27.6	24.0	24.7	24.3	36.5	19.1	26.0	27.8	27.3	21.4
Boise, Idaho.	42.7	40.2	38.9	46.0	47.2	46.0	33.2	45.5	42.8	40.8	45.2	38.8	40.6
Boston, Mass.	35.6	36.0	42.4	36.7	35.8	30.6	37.2	36.7	40.8	39.2	46.2	39.8	33.9
Brownsville, Tex.	68.3	65.3	65.2	63.4	59.0	71.4	69.5	71.2	69.2	66.4	74.3	68.7	65.0
Buffalo, N. Y.	31.1	27.4	34.8	30.1	27.8	27.1	33.2	34.7	35.5	36.0	41.6	35.2	29.2
Canton, N. Y.	27.7	20.3	31.8	26.0	25.2	19.0	28.4	28.4	29.8	30.7	37.3	32.0	20.6
Charleston, S. C.	57.4	56.1	60.0	51.2	49.6	55.2	59.4	62.0	59.5	54.6	65.1	59.0	59.6
Charlotte, N. C.	50.4	49.2	53.6	46.2	43.1	49.8	50.3	55.8	52.0	49.8	59.6	53.2	52.6
Cheyenne, Wyo.	33.1	23.2	30.8	34.0	27.6	38.6	25.6	40.8	33.7	31.5	37.6	33.8	28.2
Chicago, Ill.	36.3	28.8	35.2	35.7	34.8	34.6	38.8	42.2	38.5	40.2	45.8	39.4	33.0
Cincinnati, Ohio.	40.9	37.8	44.8	40.6	37.5	38.9	43.0	47.6	43.7	44.0	52.4	44.8	40.4
Cleveland, Ohio.	34.6	29.0	38.0	34.0	30.4	30.1	37.3	40.2	37.1	40.0	45.6	38.8	34.8
Concordia, Kans.	40.7	30.2	38.6	41.3	30.6	44.5	41.6	48.4	42.0	44.8	47.6	41.8	37.9
Des Moines, Iowa.	35.9	26.2	34.4	37.2	31.2	37.6	37.5	45.0	39.0	39.8	44.2	40.6	31.5
Devils Lake, N. Dak.	18.5	14.2	13.2	23.0	23.8	17.0	21.8	34.2	14.4	19.1	21.0	25.6	12.4
Dodge City, Kans.	42.8	30.5	40.0	43.7	32.6	48.1	41.8	49.4	43.8	45.0	49.1	41.0	40.0
Dubuque, Iowa.	34.0	25.2	32.8	34.6	32.0	33.6	34.8	41.6	36.6	37.2	41.2	37.4	27.6
Duluth, Minn.	23.7	18.6	17.0	23.2	25.0	18.9	23.2	31.4	23.9	25.3	24.6	26.2	13.5
El Paso, Tex.	55.9	54.0	52.0	53.1	49.3	60.4	53.3	56.2	54.6	53.6	59.3	53.6	51.2
Eureka, Calif.	48.0	46.3	45.6	49.3	52.1	48.6	43.8	48.5	47.6	47.0	49.8	47.1	47.4
Evansville, Ind.	44.6	39.7	44.4	42.0	39.0	43.6	47.2	52.2	47.7	46.6	55.6	48.6	43.0
Fort Worth, Tex.	56.6	49.8	53.2	55.5	46.8	62.4	58.3	62.2	56.1	56.4	63.4	56.4	53.6
Fresno, Calif.	54.9	53.2	54.8	58.9	58.4	57.4	51.3	56.4	52.7	52.7	56.8	52.6	56.8
Galveston, Tex.	62.4	57.6	59.4	57.2	53.8	65.8	63.3	66.6	60.7	60.0	68.0	01.6	59.6
Grand Rapids, Mich.	33.0	25.0	32.8	32.0	31.4	28.8	35.0	38.4	35.4	36.1	41.0	36.7	28.7
Greenville, Me.	23.5	20.9	28.0	25.2	23.2	18.8	25.0	23.3	28.7	27.5	32.2	28.5	17.6
Havre, Mont.	27.1	17.1	21.6	33.8	24.9	34.0	22.0	35.6	17.4	27.6	28.6	26.8	30.6
Indianapolis, Ind.	40.0	32.8	39.4	37.7	35.5	37.9	41.6	47.4	42.6	42.3	49.9	43.6	38.2
Iola, Kans.	42.4	34.3	39.8	45.4	34.6	47.1	45.8	51.0	47.8	46.4	52.1	45.6	41.7
Jacksonville, Fla.	62.6	62.6	64.8	57.7	55.8	59.5	65.6	67.6	63.8	59.5	70.0	64.8	64.6
Kalispell, Mont.	33.0	28.0	26.6	35.4	37.1	35.4	26.2	36.1	32.8	31.2	33.3	29.9	32.6
Little Rock, Ark.	53.0	46.6	51.4	51.0	43.2	54.8	54.0	58.8	53.8	53.0	61.3	52.4	49.6
Los Angeles, Calif.	57.5	54.2	57.8	63.0	61.4	62.0	56.7	59.1	55.6	56.8	59.4	55.6	61.0
Lynchburg, Va.	47.3	45.0	50.2	42.6	41.2	44.6	46.6	52.3	49.4	47.4	57.1	48.8	47.9
Madison, Wis.	30.6	23.4	29.6	30.4	29.6	28.6	31.8	37.9	33.2	34.0	37.4	34.1	24.7
Marquette, Mich.	23.7	19.7	21.9	25.0	26.5	19.6	25.3	31.7	28.6	28.0	28.4	29.8	17.8
Memphis, Tenn.	52.3	46.1	51.0	49.3	42.7	52.0	53.5	58.1	53.6	51.8	61.4	52.9	49.8
Miami, Fla.	72.0	75.3	75.4	65.4	63.0	65.8	72.4	72.4	71.7	67.6	73.8	72.8	73.8
Mobile, Ala.	60.0	59.4	60.2	55.1	52.4	59.9	63.4	65.9	61.6	57.8	66.8	60.2	58.8
Modena, Utah.	39.2	35.5	35.2	41.8	39.8	42.6	31.0	40.5	36.8	35.3	42.0	36.4	34.8
Nashville, Tenn.	49.2	45.1	48.8	46.0	41.3	47.2	49.9	56.3	50.4	48.5	59.0	51.3	47.6
New Orleans, La.	62.8	60.9	61.3	57.6	55.0	63.8	66.1	68.9	64.0	60.3	70.6	62.5	61.6
Norfolk, Va.	48.2	47.2	54.7	42.4	42.4	44.1	47.2	52.6	50.4	50.0	58.1	51.2	49.6
North Platte, Nebr.	36.6	23.2	32.8	38.3	26.8	43.0	33.0	45.4	37.0	37.9	43.4	38.8	34.2
Oklahoma City, Okla.	49.2	40.9	44.2	50.0	38.4	54.4	51.0	55.8	51.0	50.1	56.6	49.0	46.2
Omaha, Nebr.	37.0	27.2	35.0	37.4	30.0	39.5	38.5	47.1	40.5	41.6	45.6	40.6	32.7
Parkersburg, W. Va.	42.3	39.0	46.0	38.9	35.4	39.4	42.2	47.8	44.6	45.2	53.3	46.7	42.1
Peoria, Ill.	37.0	28.4	35.4	36.8	34.1	37.4	40.0	45.6	40.8	41.5	47.3	41.2	34.2
Phoenix, Ariz.	60.5	58.6	56.7	63.6	58.6	64.0	56.2	62.4	57.5	58.4	64.7	57.0	58.9
Pierre, S. Dak.	31.5	24.8	27.0	32.3	20.8	34.0	29.6	42.7	29.4	32.0	38.0	33.8	29.4
Pittsburgh, Pa.	39.6	35.2	43.4	36.8	33.2	34.1	40.6	44.6	42.2	42.6	50.7	43.0	38.6
Portland, Oreg.	46.9	46.4	44.6	51.1	52.6	47.0	42.6	46.7	48.2	45.8	48.0	43.3	47.2
Pueblo, Colo.	40.6	33.4	39.7	41.2	35.0	48.5	37.0	46.8	41.6	40.5	47.0	41.6	37.0
Roseburg, Oreg.	47.1	45.2	45.6	51.8	51.5	48.4	42.6	48.0	47.4	44.8	48.4	45.2	47.2
Sacramento, Calif.	54.3	51.4	52.6	58.1	57.4	56.6	50.8	53.6	51.2	51.0	55.0	50.8	56.4
St. Louis, Mo.	43.8	35.6	42.1	43.5	38.5	45.0	46.6	52.6	47.1	46.6	54.0	46.2	41.4
St. Paul, Minn.	29.1	24.6	26.0	30.8	28.0	26.2	27.3	38.3	30.6	30.6	33.7	32.3	21.0
Salt Lake City, Utah.	41.7	40.0	38.2	45.0	45.1	46.3	33.0	45.4	42.6	39.2	46.2	36.8	37.0
San Antonio, Tex.	62.1	56.7	59.4	58.8	53.2	68.6	63.6	66.6	61.0	60.4	67.0	61.6	58.6
San Diego, Calif.	56.7	55.2	55.1	61.4	59.4	59.2	54.6	58.5	55.0	55.6	57.5	54.6	58.4
San Francisco, Calif.	54.2	52.4	52.6	58.4	57.9	56.6	51.7	54.9	52.6	52.6	54.6	52.4	56.8
Santa Fe, N. Mex.	39.7	37.6	36.0	39.4	35.8	43.6	35.6	42.8	37.6	37.4	42.6	36.4	34.6
Scranton, Pa.	36.2	32.8	42.0	34.1	31.6	38.9	36.4	39.6	39.1	38.2	45.8	38.7	34.2
Seattle, Wash.	44.2	44.3	41.9	47.6	50.0	44.4	41.0	44.0	44.7	44.4	44.6	41.5	44.0
Sheridan, Wyo.	32.7	17.6	25.0	34.6	30.2	38.0	24.0	37.4	33.0	30.4	35.6	32.2	28.9
Shreveport, La.	58.2	51.6	54.2	55.0	47.2	60.6	58.4	62.5	58.2	56.9	65.7	57.1	55.0
Springfield, Mo.	43.5	37.8	41.3	44.0	35.1	47.8	47.0	52.6	48.4	46.4	52.8	45.2	41.6
Thomasville, Ga.	60.2	59.4	61.4	55.8	52.2	58.2	62.8	65.0	63.0	57.4	68.2	62.0	61.0
Trenton, N. J.	39.1	------	46.1	35.6	36.0	32.2	39.2	41.8	43.0	40.4	50.0	41.2	38.3
Walla Walla, Wash.	44.0	42.4	42.1	49.4	49.7	47.7	39.8	49.0	46.8	45.2	47.2	43.2	46.6
Washington, D. C.	42.6	40.9	49.0	39.4	38.8	37.9	43.4	48.4	46.4	45.5	55.5	45.4	45.4
Winnemucca, Nev.	40.0	37.4	37.4	44.6	43.2	44.2	32.8	42.2	39.2	38.5	43.8	33.9	37.5

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal*[1] *and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for April.	April monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	54.6	54.6	56.2	56.0	57.0	52.9	54.8	53.2	54.5	51.0	55.0	54.8	56.0
Atlanta, Ga.	61.0	61.9	59.4	61.8	64.4	60.0	63.7	57.9	61.7	58.6	61.0	62.8	60.2
Birmingham, Ala.	63.5	63.3	61.3	62.8	66.0	61.2	64.0	60.4	62.8	61.2	62.6	66.2	62.2
Bismarck, N. Dak.	42.1	46.6	48.1	43.1	51.5	41.0	38.5	43.0	43.4	34.6	43.4	44.8	41.1
Boise, Idaho	50.4	48.2	50.6	51.2	55.3	51.4	46.4	48.8	51.8	45.4	47.0	45.0	49.4
Boston, Mass.	46.4	47.4	48.0	45.3	50.8	45.6	44.0	47.8	46.8	45.0	51.8	48.7	48.2
Brownsville, Tex.	73.7	74.8	69.3	71.6	71.4	72.5	74.4	76.2	74.3	75.8	74.4	78.4	75.7
Buffalo, N. Y.	42.8	42.2	45.0	40.2	46.8	42.8	40.4	42.4	42.5	39.8	51.3	44.8	40.4
Canton, N. Y.	42.5	40.6	45.4	39.5	50.0	43.8	40.5	42.3	39.3	40.2	48.5	43.6	39.6
Charleston, S. C.	64.5	67.0	62.6	65.2	63.3	64.0	67.2	63.5	64.4	64.0	66.3	68.2	64.4
Charlotte, N. C.	59.8	61.4	59.2	60.6	61.8	59.0	62.3	57.4	60.0	57.8	61.6	61.0	59.0
Cheyenne, Wyo.	40.9	40.2	43.1	40.2	46.0	40.2	36.4	34.8	41.7	31.6	38.8	38.2	39.6
Chicago, Ill.	47.7	48.8	48.8	48.3	56.3	48.0	44.8	44.0	45.0	43.0	54.2	48.7	46.6
Cincinnati, Ohio	52.4	56.9	54.0	53.9	58.4	51.6	51.2	50.9	52.6	48.0	56.2	55.6	51.7
Cleveland, Ohio	46.2	48.0	47.4	45.4	51.8	45.9	45.4	45.8	47.0	42.6	53.9	48.6	45.8
Concordia, Kans.	53.6	54.1	56.2	54.2	59.6	50.2	51.0	47.6	51.0	45.6	54.6	54.4	53.7
Des Moines, Iowa	50.1	51.4	52.0	50.4	59.4	48.6	46.8	46.8	49.3	43.9	52.8	50.8	50.2
Devils Lake, N. Dak.	38.2	42.8	45.6	37.4	48.3	37.8	36.1	41.2	40.5	31.2	39.2	41.8	37.4
Dodge City, Kans.	53.6	52.8	55.8	54.2	58.8	50.2	51.4	47.8	52.6	48.8	53.8	53.0	54.1
Dubuque, Iowa	48.6	49.8	51.0	48.5	57.7	48.2	46.4	44.2	49.0	42.8	52.2	48.8	47.0
Duluth, Minn.	37.0	38.7	40.4	33.6	45.4	38.0	33.2	36.3	39.2	31.6	40.8	37.2	37.5
El Paso, Tex.	63.8	59.1	60.6	64.0	62.7	62.7	62.3	62.0	65.0	60.1	61.0	61.6	63.6
Eureka, Calif.	49.5	48.4	49.3	51.9	52.3	50.2	49.0	50.7	50.5	48.0	48.4	46.1	50.5
Evansville, Ind.	56.4	58.2	55.7	55.4	61.9	54.2	55.9	53.0	57.6	52.8	58.8	59.2	55.9
Fort Worth, Tex.	65.3	64.5	64.8	63.2	66.2	62.3	63.8	63.4	65.0	63.6	62.8	65.3	66.0
Fresno, Calif.	61.2	56.8	60.7	60.8	60.0	62.4	59.3	61.8	62.4	59.4	59.2	57.4	59.3
Galveston, Tex.	68.7	68.4	67.2	66.7	66.1	67.0	67.8	68.3	68.4	67.3	67.4	71.6	69.4
Grand Rapids, Mich.	46.2	46.8	48.3	45.6	53.8	46.7	43.1	44.0	45.6	41.1	52.6	48.0	45.0
Greenville, Me.	36.4	35.0	39.6	31.5	40.8	29.2	35.1	39.7	36.4	36.0	43.0	39.4	34.9
Havre, Mont.	43.7	46.0	46.1	44.9	53.6	43.8	39.4	42.8	47.2	36.0	43.1	42.7	43.2
Indianapolis, Ind.	52.1	53.9	52.0	51.9	58.0	50.5	49.2	48.9	52.2	46.8	55.8	54.2	49.9
Iola, Kans.	54.2	56.0	58.4	55.0	61.0	52.6	53.8	51.7	55.8	52.1	56.2	57.2	56.5
Jacksonville, Fla.	68.7	70.8	67.3	70.1	66.9	67.0	69.6	67.0	67.3	68.8	67.8	71.4	69.2
Kalispell, Mont.	42.5	45.8	42.9	44.8	49.2	43.5	39.6	42.6	46.4	39.2	42.1	40.1	42.6
Little Rock, Ark.	62.1	62.8	61.8	61.8	65.5	60.6	61.2	60.7	61.6	60.2	60.4	64.2	62.4
Los Angeles, Calif.	59.4	56.4	59.8	62.8	60.4	62.4	57.9	61.7	60.9	58.8	59.0	57.6	58.4
Lynchburg, Va.	57.3	59.0	57.4	56.7	59.8	54.7	57.4	53.3	55.6	54.3	59.1	57.8	55.8
Madison, Wis.	45.4	46.7	47.2	45.1	54.0	45.3	42.4	41.6	45.8	40.4	50.6	45.8	44.0
Marquette, Mich.	37.5	38.0	41.2	35.1	47.4	38.4	33.4	37.5	39.2	32.9	44.6	37.9	36.6
Memphis, Tenn.	61.8	62.6	61.2	61.1	65.9	60.2	61.7	60.0	61.7	59.4	61.0	64.0	61.5
Miami, Fla.	74.2	77.8	71.6	74.6	69.5	70.2	72.0	73.6	72.6	75.0	74.0	75.8	74.9
Mobile, Ala.	66.2	67.9	65.6	67.8	66.5	64.8	66.6	64.8	65.6	66.4	65.8	70.2	67.8
Modena, Utah.	46.9	41.0	45.3	46.8	48.2	48.2	42.6	44.6	49.0	43.1	43.0	40.2	44.4
Nashville, Tenn.	59.0	60.1	58.6	58.6	63.5	57.2	59.7	57.0	59.2	56.2	59.2	61.6	58.3
New Orleans, La.	68.8	70.4	67.5	68.9	68.8	67.8	68.2	67.8	68.1	69.1	68.2	73.3	69.7
Norfolk, Va.	56.8	61.0	58.6	55.8	60.2	56.4	57.6	56.4	56.9	57.3	61.2	59.7	57.2
North Platte, Nebr.	48.6	48.2	51.0	50.0	55.0	47.8	44.8	42.7	47.5	40.5	48.6	48.1	48.1
Oklahoma City, Okla.	59.6	58.8	60.6	58.0	63.0	55.4	57.6	56.0	58.8	56.2	58.7	60.0	59.3
Omaha, Nebr.	51.2	52.8	53.4	51.8	60.0	49.5	47.9	47.4	49.1	44.2	54.2	52.6	51.2
Parkersburg, W. Va.	53.0	56.6	53.0	53.9	57.3	52.5	52.0	51.6	52.9	50.6	57.6	56.2	52.6
Peoria, Ill.	50.9	51.5	51.7	51.2	58.8	49.8	47.4	45.8	51.3	44.2	54.3	52.5	49.4
Phoenix, Ariz.	66.6	63.1	67.2	68.5	66.4	68.2	64.2	67.5	69.2	64.6	66.1	63.2	66.6
Pierre, S. Dak.	46.8	50.8	50.8	47.4	54.8	44.6	42.5	45.2	46.2	38.1	48.1	49.2	47.0
Pittsburgh, Pa.	51.2	52.6	51.6	49.4	55.5	49.2	49.6	49.3	51.0	47.0	56.9	52.6	49.8
Portland, Oreg.	51.8	49.9	51.0	53.8	55.6	53.0	49.4	52.8	53.4	48.2	50.8	48.7	54.2
Pueblo, Colo.	50.5	48.8	50.8	49.0	53.4	48.6	46.8	45.8	50.6	43.6	48.0	48.8	51.0
Roseburg, Oreg.	51.0	49.0	50.3	53.5	54.4	52.6	50.0	52.0	53.0	49.2	50.8	48.6	52.8
Sacramento, Calif.	58.1	54.3	58.0	58.8	58.3	61.0	57.8	59.2	58.8	57.1	57.6	56.4	57.1
St. Louis, Mo.	55.8	57.2	56.1	56.4	63.2	54.4	53.7	51.1	57.5	51.2	58.1	58.2	55.0
St. Paul, Minn.	45.6	49.0	49.2	44.4	55.8	43.8	42.2	43.6	45.5	38.8	50.4	45.2	43.7
Salt Lake City, Utah.	49.6	46.8	51.6	51.8	56.4	51.6	45.6	47.6	52.1	44.0	47.0	44.4	47.1
San Antonio, Tex.	69.0	68.6	66.9	66.8	67.5	67.6	69.0	68.9	68.4	69.4	67.5	70.2	69.2
San Diego, Calif.	58.5	56.1	58.0	61.4	59.7	60.2	57.0	60.4	59.2	57.6	57.4	56.3	59.0
San Francisco, Calif.	55.0	52.8	55.4	58.2	57.1	57.6	55.1	57.2	56.0	54.9	55.0	53.5	56.1
Santa Fe, N. Mex.	46.7	42.3	47.2	48.0	47.7	46.6	46.1	45.0	48.0	40.8	43.4	44.3	45.6
Scranton, Pa.	47.9	47.8	51.2	46.2	53.9	47.2	47.6	48.1	47.9	45.4	55.6	48.6	48.3
Seattle, Wash.	49.4	48.0	49.0	51.4	52.6	49.0	46.8	50.0	49.6	45.6	47.5	46.6	51.0
Sheridan, Wyo.	43.4	43.8	45.6	43.2	52.0	43.2	40.1	37.2	45.2	36.4	43.0	40.3	40.2
Shreveport, La.	65.8	66.0	64.2	64.7	67.3	63.5	63.8	63.8	65.2	64.4	63.1	67.8	66.0
Springfield, Mo.	55.7	55.4	56.7	54.8	61.8	52.8	54.0	51.8	56.4	51.6	55.6	57.6	55.2
Thomasville, Ga.	66.7	68.6	65.1	68.6	66.4	65.9	68.1	64.5	66.4	66.4	66.4	69.8	67.7
Trenton, N. J.	49.8	52.2	52.6	48.5	54.9	48.8	49.1	50.1	49.9	47.8	56.6	51.6	50.2
Walla Walla, Wash.	52.8	52.2	53.2	53.4	56.9	53.1	49.0	53.2	54.0	49.0	50.2	49.2	54.1
Washington, D. C.	53.3	55.6	55.5	53.5	59.4	53.4	54.2	53.2	53.8	52.6	59.2	55.6	53.6
Winnemucca, Nev.	46.7	44.0	46.6	48.6	50.4	49.0	44.4	45.5	48.8	43.6	45.1	41.4	45.2

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal[1] and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for May.	May monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex	64.3	66.6	68.2	63.2	61.5	67.0	58.2	67.5	61.8	64.1	65.4	65.0	63.8
Atlanta, Ga	69.9	70.2	70.8	71.2	71.5	72.6	64.0	72.2	67.7	67.1	68.4	69.0	65.8
Birmingham, Ala	71.6	71.0	70.6	70.6	73.1	72.7	65.0	73.2	68.0	69.8	71.0	71.6	69.0
Bismarck, N. Dak	54.5	55.2	52.4	55.6	51.0	52.8	52.6	54.2	56.0	54.8	54.8	57.6	56.2
Boise, Idaho	57.1	56.4	59.0	61.2	55.0	52.5	55.0	54.8	59.3	55.0	57.2	56.4	56.8
Boston, Mass	57.1	58.6	55.2	60.4	56.6	58.6	50.7	63.3	59.1	54.6	58.0	61.4	57.6
Brownsville, Tex	78.6	80.1	74.7	78.7	78.8	80.3	77.6	79.4	80.2	80.8	78.2	81.4	80.6
Buffalo, N. Y	54.6	55.8	53.7	54.2	51.1	52.8	47.4	58.0	54.0	53.2	56.8	60.2	52.6
Canton, N. Y	56.2	54.8	52.8	57.2	50.7	53.9	46.8	58.2	54.8	55.0	57.6	58.5	51.1
Charleston, S. C	72.7	74.6	72.6	72.5	75.5	74.4	70.2	73.2	74.2	68.8	70.5	73.6	70.7
Charlotte, N. C	68.9	69.5	69.9	70.6	69.3	72.6	63.6	72.3	69.0	65.6	66.0	69.4	66.2
Cheyenne, Wyo	50.3	50.4	52.0	51.1	46.4	48.6	43.0	50.7	51.2	49.4	50.4	49.8	50.3
Chicago, Ill	58.5	59.9	57.6	62.3	54.1	59.3	52.6	63.7	55.2	55.4	61.7	63.8	54.4
Cincinnati, Ohio	63.1	66.2	65.8	66.8	60.2	64.5	56.6	68.8	60.1	60.8	64.6	66.8	61.2
Cleveland, Ohio	57.9	60.0	57.8	60.0	54.2	58.0	51.2	64.4	56.4	55.6	59.8	61.3	54.5
Concordia, Kans	63.7	66.6	65.8	64.4	60.9	63.2	57.6	67.8	61.1	61.4	65.8	64.2	60.2
Des Moines, Iowa	61.3	65.0	61.3	64.0	57.3	61.7	57.3	67.2	59.8	61.2	65.4	64.3	60.7
Devils Lake, N. Dak	52.7	53.0	50.2	54.8	50.7	50.3	51.0	48.9	55.7	54.4	54.2	56.8	54.5
Dodge City, Kans	63.5	65.8	67.3	62.8	59.4	63.6	57.0	67.0	61.2	61.6	64.8	63.6	60.8
Dubuque, Iowa	60.3	61.8	59.2	62.6	54.8	60.0	54.8	64.9	57.8	58.8	63.6	64.8	60.0
Duluth, Minn	47.3	46.8	46.2	53.2	44.2	47.4	46.0	46.9	50.5	51.0	50.5	51.4	48.9
El Paso, Tex	72.1	71.5	71.8	71.2	69.6	72.9	66.6	69.8	72.0	73.1	71.9	73.0	74.0
Eureka, Calif	52.1	52.1	52.4	53.0	53.6	50.4	50.0	50.6	52.1	49.3	50.8	51.0	51.7
Evansville, Ind	67.1	68.0	67.6	67.9	65.2	68.6	60.4	71.9	63.8	65.6	68.1	70.4	64.8
Fort Worth, Tex	73.2	74.0	73.6	70.2	72.7	72.8	66.8	75.2	69.8	73.4	73.4	74.1	73.4
Fresno, Calif	68.4	67.5	68.4	68.8	63.0	64.2	62.4	63.8	69.8	68.2	63.6	68.6	67.1
Galveston, Tex	74.8	75.4	74.0	74.6	75.5	75.0	71.6	75.2	73.0	76.6	74.8	77.3	76.0
Grand Rapids, Mich	59.0	58.8	57.4	60.0	53.3	57.8	51.7	61.8	56.4	57.1	62.2	64.0	56.8
Greenville, Me	49.5	50.6	47.6	52.1	47.6	49.9	43.2	54.4	51.0	50.0	53.4	52.6	48.6
Havre, Mont	53.4	53.2	51.6	54.7	52.7	49.4	52.8	51.6	56.7	53.7	53.8	53.8	55.4
Indianapolis, Ind	62.9	65.0	63.7	65.6	59.7	63.4	56.0	68.8	59.4	61.0	65.3	67.5	60.6
Iola, Kans	64.5	68.2	67.0	65.6	62.4	66.0	58.8	68.8	63.3	66.2	67.6	67.6	63.6
Jacksonville, Fla	75.0	77.6	74.3	74.8	77.8	75.6	73.1	74.2	74.8	71.9	72.9	76.4	72.3
Kalispell, Mont	51.0	52.7	50.9	53.0	51.4	47.1	51.3	48.3	51.0	48.0	53.0	50.4	50.8
Little Rock, Ark	70.3	70.5	70.0	70.6	70.4	72.2	64.0	74.1	67.1	71.0	70.9	71.5	67.4
Los Angeles, Calif	62.2	62.9	60.9	60.3	61.5	61.3	58.7	61.2	61.6	62.1	58.8	62.6	64.6
Lynchburg, Va	67.3	66.2	66.0	68.4	65.4	69.0	60.7	70.0	65.0	61.8	63.2	67.2	63.8
Madison, Wis	57.6	58.4	56.6	60.3	51.8	57.3	52.0	61.0	55.2	56.6	60.4	63.6	57.0
Marquette, Mich	49.0	49.4	47.6	54.4	45.6	48.7	44.8	50.8	50.2	50.4	51.6	54.9	49.4
Memphis, Tenn	70.6	70.1	70.0	70.6	71.2	73.0	64.2	74.6	67.0	70.5	70.7	72.4	68.0
Miami, Fla	78.6	79.2	76.0	77.6	78.0	76.7	75.6	76.2	76.4	76.2	74.6	77.2	76.0
Mobile, Ala	73.9	75.0	73.7	74.8	76.2	76.4	69.9	74.6	72.4	75.1	72.3	74.1	72.6
Modena, Utah	54.5	51.4	54.4	56.6	50.8	51.7	48.0	51.0	58.8	54.4	52.0	53.2	55.2
Nashville, Tenn	68.2	68.4	68.8	68.2	70.1	70.5	61.8	71.0	66.0	67.0	68.4	69.9	65.6
New Orleans, La	75.4	76.0	74.8	75.5	77.4	77.1	72.2	76.0	74.0	78.0	74.3	75.7	74.3
Norfolk, Va	66.2	68.5	67.6	68.3	66.0	69.2	62.4	70.5	67.9	61.4	63.0	67.9	65.6
North Platte, Nebr	58.7	59.8	60.0	59.8	55.2	58.2	52.6	61.6	58.2	57.8	61.0	59.5	57.2
Oklahoma City, Okla	68.1	70.5	69.4	65.8	65.3	69.1	62.4	71.0	65.7	68.6	69.6	68.8	66.3
Omaha, Nebr	62.4	66.2	62.9	64.4	58.9	63.0	57.6	67.8	61.6	61.7	65.9	64.6	60.9
Parkersburg, W. Va	63.3	65.2	63.4	64.8	61.6	65.9	57.6	69.0	63.0	61.4	64.2	66.0	62.2
Peoria, Ill	61.7	64.2	62.4	65.0	58.6	61.4	55.6	66.4	58.2	60.8	65.1	65.6	61.0
Phoenix, Ariz	74.8	73.8	73.8	75.6	70.8	74.0	69.0	72.2	76.9	75.9	73.6	76.4	77.6
Pierre, S. Dak	58.0	59.4	56.1	59.0	53.6	56.9	54.8	59.2	58.4	56.9	58.2	60.3	58.5
Pittsburgh, Pa	62.4	63.8	60.6	62.8	58.0	63.2	54.6	67.6	60.8	59.6	62.4	65.0	60.1
Portland, Oreg	56.9	59.2	57.6	61.1	57.7	54.8	54.6	55.6	57.2	55.1	57.1	58.0	57.6
Pueblo, Colo	59.5	59.6	62.4	60.4	55.6	59.0	53.2	61.2	59.7	59.2	62.2	59.4	58.4
Roseburg, Oreg	56.0	57.2	57.4	59.7	56.4	54.2	54.5	54.8	57.0	55.0	55.9	57.7	57.0
Sacramento, Calif	63.3	63.6	64.8	62.8	59.8	61.4	59.8	61.8	65.2	65.0	60.7	65.9	63.3
St. Louis, Mo	66.9	68.2	67.3	69.4	64.6	68.0	60.6	70.8	63.0	64.8	68.5	69.4	64.1
St. Paul, Minn	57.9	59.2	55.9	59.9	52.2	56.6	54.8	59.8	58.0	59.0	59.8	62.5	58.6
Salt Lake City, Utah	57.4	55.8	60.8	62.4	56.7	54.8	53.7	56.4	62.5	57.8	59.1	57.6	59.4
San Antonio, Tex	74.8	76.8	75.6	74.4	75.6	76.1	71.6	75.9	73.4	76.8	75.4	77.0	77.2
San Diego, Calif	60.8	60.6	59.7	60.2	60.6	60.8	58.4	60.8	61.0	59.8	58.4	60.3	63.2
San Francisco, Calif	56.8	57.2	56.6	56.2	57.6	55.8	54.0	54.6	57.2	55.8	54.4	58.0	57.2
Santa Fe, N. Mex	55.7	55.4	58.6	56.2	52.3	55.6	48.9	55.7	56.0	56.2	56.0	55.9	55.8
Scranton, Pa	59.5	61.2	57.6	61.5	54.6	60.4	51.6	64.6	60.0	57.2	60.1	62.2	58.1
Seattle, Wash	55.0	57.0	54.1	57.3	56.0	52.0	52.4	52.4	53.6	51.6	53.6	54.5	54.1
Sheridan, Wyo	50.7	51.2	52.4	52.4	50.5	49.0	48.3	50.6	54.8	51.2	53.4	52.4	53.4
Shreveport, La	73.2	72.8	72.0	72.5	74.6	73.8	67.7	75.2	70.1	75.2	73.6	75.3	71.4
Springfield, Mo	64.6	67.0	66.2	65.6	63.2	65.8	59.1	68.6	62.0	65.0	65.4	66.4	62.4
Thomasville, Ga	74.0	76.2	73.3	75.2	77.8	76.4	70.3	74.3	72.7	72.8	72.2	75.8	72.2
Trenton, N. J	61.1	64.3	60.8	64.1	58.4	62.2	54.6	65.2	62.0	58.0	60.3	64.2	60.6
Walla Walla, Wash	60.7	61.2	60.2	62.2	58.0	55.8	57.0	56.8	59.4	57.9	60.4	59.0	60.0
Washington, D. C	63.7	65.1	64.4	67.0	62.5	66.7	59.6	66.6	64.6	60.0	62.3	66.8	63.4
Winnemucca, Nev	53.9	54.2	57.0	59.4	52.3	50.3	50.1	51.6	59.4	54.2	54.1	54.4	54.8

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal*[1] *and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for June.	June monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	72.0	70.4	70.2	76.2	72.4	74.6	78.6	77.3	68.9	72.4	70.2	73.4	72.4
Atlanta, Ga.	76.0	72.8	75.8	80.8	75.3	75.2	75.0	76.8	76.8	76.4	78.8	76.8	75.0
Birmingham, Ala.	78.2	73.8	77.4	81.9	77.4	76.2	77.0	79.1	78.2	76.7	82.0	78.1	77.0
Bismarck, N. Dak.	63.7	62.8	67.3	64.0	58.2	59.2	61.9	65.8	69.0	64.4	71.2	66.2	66.6
Boise, Idaho.	65.3	66.6	65.0	63.0	61.8	61.8	62.6	73.2	66.4	64.1	68.2	70.3	62.6
Boston, Mass.	66.5	68.0	67.5	67.3	68.9	62.6	65.8	63.9	67.2	65.8	68.2	68.6	69.3
Brownsville, Tex.	82.4	78.8	78.2	82.6	84.4	84.4	83.5	84.5	82.6	81.5	82.6	82.8	83.0
Buffalo, N. Y.	64.4	61.7	63.4	63.2	64.0	61.4	60.2	61.8	72.4	64.0	66.6	65.0	64.8
Canton, N. Y.	65.8	59.1	62.0	61.0	63.0	61.2	62.0	59.6	69.4	63.6	65.7	64.6	63.8
Charleston, S. C.	78.9	77.6	76.2	80.6	78.0	78.0	77.6	78.6	77.4	78.4	80.0	79.8	78.6
Charlotte, N. C.	75.5	73.2	75.0	79.8	73.1	74.1	75.2	75.2	75.8	75.6	78.0	77.6	77.9
Cheyenne, Wyo.	60.4	58.5	60.8	61.4	54.6	58.4	58.2	65.1	62.6	59.4	61.6	63.8	59.4
Chicago, Ill.	68.2	66.0	70.5	70.2	63.8	63.5	63.8	60.9	72.6	69.1	73.8	70.8	70.8
Cincinnati, Ohio.	71.2	70.7	74.8	70.2	69.3	67.3	69.0	70.4	75.3	70.4	75.4	73.7	72.0
Cleveland, Ohio.	67.1	64.8	68.2	68.3	63.9	62.8	64.8	67.4	73.4	67.4	69.8	68.6	70.8
Concordia, Kans.	72.7	69.6	75.2	78.6	68.3	69.2	72.6	78.9	72.8	73.3	75.8	76.0	73.0
Des Moines, Iowa.	70.6	67.8	73.1	74.4	67.0	66.5	67.9	72.7	73.4	72.5	76.3	74.0	72.0
Devils Lake, N. Dak.	62.6	61.6	65.3	61.6	55.4	57.5	59.2	61.2	66.1	62.4	66.9	63.8	67.0
Dodge City, Kans.	72.5	68.1	72.5	77.3	68.8	70.6	73.4	77.9	70.7	72.6	72.8	74.5	71.8
Dubuque, Iowa.	69.4	66.8	71.4	69.8	64.7	64.0	65.2	68.7	72.8	70.9	75.0	71.2	72.7
Duluth, Minn.	57.2	58.5	59.3	57.0	53.2	53.8	53.0	57.4	58.1	57.9	62.6	59.9	60.8
El Paso, Tex.	79.6	77.8	76.8	78.9	81.6	83.8	80.8	80.4	77.6	77.4	79.6	81.4	81.4
Eureka, Calif.	54.6	54.8	55.3	52.8	54.0	52.8	52.6	54.3	53.6	54.3	57.2	55.6	54.3
Evansville, Ind.	75.3	71.1	78.1	80.0	73.2	71.9	73.4	75.9	78.2	74.2	80.0	77.8	75.4
Fort Worth, Tex.	80.1	77.0	79.4	83.0	80.3	80.2	80.6	84.4	76.7	78.3	78.8	80.2	80.6
Fresno, Calif.	75.8	75.2	72.0	78.6	75.0	78.2	77.0	82.5	75.6	74.9	76.0	76.5	69.4
Galveston, Tex.	80.7	77.8	78.5	82.3	82.6	81.0	80.3	82.8	77.4	79.6	80.6	81.2	81.4
Grand Rapids, Mich.	68.1	64.8	69.8	67.6	63.4	62.5	62.6	66.2	74.2	69.2	73.4	69.6	71.8
Greenville, Me.	58.9	57.5	57.4	56.3	58.8	57.5	58.1	55.6	63.8	59.8	60.0	61.1	60.4
Havre, Mont.	62.0	62.4	65.1	60.7	56.8	59.3	59.6	67.2	67.6	61.8	67.8	65.6	63.8
Indianapolis, Ind.	71.6	68.9	74.2	74.8	69.5	67.2	68.8	71.2	75.8	71.1	76.0	73.8	72.8
Iola, Kans.	73.4	69.6	75.0	79.6	71.1	71.4	73.2	79.2	74.6	73.0	76.4	76.6	75.2
Jacksonville, Fla.	79.9	78.2	78.3	82.8	79.8	79.4	79.2	79.8	77.4	78.6	80.0	80.0	78.8
Kalispell, Mont.	58.8	61.4	60.7	57.3	55.8	55.3	55.5	62.2	60.2	55.6	60.9	63.8	58.1
Little Rock, Ark.	77.4	73.8	78.2	84.0	76.2	76.6	76.2	80.5	77.2	75.4	79.0	79.4	77.5
Los Angeles, Calif.	66.4	65.4	64.4	64.8	66.7	63.6	66.8	69.8	68.7	65.8	65.6	67.7	63.6
Lynchburg, Va.	74.6	71.6	73.3	76.6	71.6	71.0	72.8	71.2	73.4	71.9	74.3	74.8	75.6
Madison, Wis.	67.2	64.8	69.0	66.6	62.0	61.8	61.8	65.9	71.2	69.0	72.2	68.6	71.2
Marquette, Mich.	58.5	58.6	61.6	58.8	55.2	52.9	52.0	57.2	62.3	58.9	65.2	60.0	60.2
Memphis, Tenn.	77.6	73.7	78.0	84.2	76.6	75.9	76.1	80.4	78.8	76.5	80.6	79.8	77.0
Miami, Fla.	80.4	80.4	78.8	81.2	79.4	79.4	79.1	79.4	79.0	79.2	79.7	79.5	79.8
Mobile, Ala.	79.6	77.0	78.6	83.7	81.6	79.6	78.9	82.0	80.0	79.8	81.2	80.8	78.6
Modena, Utah.	63.2	62.6	61.8	61.6	60.8	63.0	62.8	70.4	64.3	62.0	64.8	65.7	59.1
Nashville, Tenn.	75.6	72.2	77.3	81.8	74.6	72.9	73.0	77.0	78.2	73.8	80.0	77.0	74.9
New Orleans, La.	80.6	78.0	78.8	84.2	83.8	81.6	80.4	83.2	80.0	80.8	81.2	81.8	79.9
Norfolk, Va.	74.4	73.0	73.2	75.0	71.3	72.1	74.2	72.6	73.4	74.3	74.8	75.9	77.2
North Platte, Nebr.	67.5	65.0	70.6	72.1	63.8	64.6	67.0	73.8	69.3	68.4	71.8	72.8	69.2
Oklahoma City, Okla.	75.7	73.8	75.6	80.8	73.7	74.6	76.9	81.3	73.8	74.6	76.0	77.9	76.9
Omaha, Nebr.	71.6	69.0	74.4	75.2	67.6	68.0	69.6	76.1	73.4	73.1	77.4	75.6	72.4
Parkersburg, W. Va.	71.5	69.5	72.4	73.4	69.6	67.6	68.6	70.0	76.0	70.2	75.0	72.2	73.0
Peoria, Ill.	70.9	68.4	73.2	74.2	67.8	65.8	67.7	71.4	74.8	72.0	76.8	73.2	73.0
Phoenix, Ariz.	84.4	86.0	81.9	84.6	83.4	83.9	84.4	88.6	85.4	84.4	84.8	86.2	80.8
Pierre, S. Dak.	68.5	68.4	73.4	68.8	63.1	63.5	65.3	71.7	71.0	66.6	76.0	70.5	68.7
Pittsburgh, Pa.	70.7	67.5	70.5	71.0	67.1	65.3	67.6	68.0	75.0	68.5	73.0	71.2	71.6
Portland, Oreg.	62.4	63.6	62.9	61.4	62.6	62.0	61.8	67.1	60.6	62.1	64.4	65.5	62.5
Pueblo, Colo.	69.0	65.0	68.8	70.6	66.0	69.6	67.2	74.0	68.4	68.4	68.9	71.8	69.5
Roseburg, Oreg.	62.5	61.8	61.7	61.3	62.0	61.4	62.1	67.4	60.6	62.4	64.8	67.0	63.0
Sacramento, Calif.	69.4	69.2	66.5	67.1	69.8	68.0	72.6	76.0	69.4	70.2	71.9	71.0	65.9
St. Louis, Mo.	74.8	70.3	78.4	81.1	72.0	71.5	73.3	77.1	77.3	75.2	78.4	78.2	75.2
St. Paul, Minn.	67.1	64.6	70.0	66.2	62.4	62.7	62.8	66.3	70.0	68.0	73.5	68.3	70.0
Salt Lake City, Utah.	67.4	69.0	67.5	64.9	64.2	65.9	65.8	76.4	74.0	68.0	71.2	73.6	64.2
San Antonio, Tex.	80.4	78.4	79.2	82.0	83.8	84.0	83.0	83.6	77.5	78.4	81.0	79.4	83.2
San Diego, Calif.	68.9	68.2	62.8	63.8	64.8	61.4	63.7	66.8	66.2	63.6	63.1	64.3	62.3
San Francisco, Calif.	58.5	60.4	58.2	55.6	58.9	57.4	58.6	59.2	57.8	60.2	61.4	60.0	57.2
Santa Fe, N. Mex.	64.8	62.4	62.8	67.0	64.0	66.2	66.0	68.4	68.1	63.6	62.9	66.4	65.2
Scranton, Pa.	66.7	65.2	67.5	66.8	65.8	63.0	66.8	65.4	71.7	66.9	69.4	68.7	70.2
Seattle, Wash.	60.1	60.0	59.5	58.9	59.8	58.8	57.2	61.6	57.5	58.6	59.8	60.8	60.6
Sheridan, Wyo.	61.1	61.6	64.0	61.1	55.6	59.0	58.0	57.0	68.0	60.8	66.6	64.6	61.8
Shreveport, La.	79.6	76.2	79.0	83.9	80.7	79.4	80.2	83.6	77.8	78.5	80.4	80.6	79.7
Springfield, Mo.	72.3	68.6	74.2	78.8	70.3	70.0	70.9	77.0	73.6	71.8	74.2	75.7	72.8
Thomasville, Ga.	79.5	77.5	76.9	83.2	81.1	78.6	79.4	80.3	78.6	79.0	80.6	80.0	77.6
Trenton, N. J.	69.5	70.2	70.6	69.4	67.8	66.3	70.5	67.2	70.8	69.0	71.1	71.3	73.5
Walla Walla, Wash.	63.2	63.8	66.9	64.9	66.1	64.4	64.8	73.1	66.4	65.0	70.4	73.9	65.0
Washington, D. C.	72.2	70.4	72.8	73.8	70.6	69.7	72.6	70.8	73.9	71.6	74.2	74.5	75.6
Winnemucca, Nev.	62.8	64.4	61.6	61.2	61.0	61.6	63.3	70.6	64.2	62.1	66.2	67.4	57.8

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal*[1] *and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for July.	July monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	76.1	79.2	78.7	77.8	74.6	79.0	79.4	76.3	76.2	78.1	74.8	78.8	78.3
Atlanta, Ga.	78.1	77.2	79.6	79.1	76.6	76.4	78.0	76.6	77.3	77.3	78.8	77.8	77.1
Birmingham, Ala.	81.5	78.5	80.6	80.8	79.4	77.8	79.5	77.8	79.0	78.8	81.8	79.5	78.5
Bismarck, N. Dak.	69.8	69.0	67.6	73.3	62.6	75.0	73.2	68.9	72.3	71.0	74.2	67.9	72.3
Boise, Idaho.	72.9	68.8	79.2	75.2	70.6	70.8	77.4	74.4	75.6	76.2	74.1	75.6	75.4
Boston, Mass.	71.7	73.2	73.8	68.6	70.1	72.6	73.3	71.9	74.0	72.4	73.2	72.0	70.9
Brownsville, Tex.	83.8	82.3	81.4	85.0	85.0	83.4	84.2	85.6	83.5	84.9	83.2	84.6	83.6
Buffalo, N. Y.	69.8	70.1	69.2	70.9	67.8	74.7	69.5	68.8	70.4	68.1	76.2	70.1	69.8
Canton, N. Y.	70.5	67.8	68.2	66.6	67.2	72.5	70.0	69.1	69.1	66.0	76.4	68.7	66.2
Charleston, S. C.	81.4	80.6	82.6	81.0	82.2	79.1	80.8	79.4	80.6	80.0	80.6	82.3	80.1
Charlotte, N. C.	78.4	77.7	80.4	78.4	79.4	76.0	77.4	76.0	78.6	77.6	79.5	78.8	78.6
Cheyenne, Wyo.	66.7	65.0	65.2	66.6	62.3	69.1	67.4	65.7	69.8	65.8	66.8	65.5	67.5
Chicago, Ill.	73.9	72.9	74.9	75.0	70.2	78.4	72.2	71.2	77.0	71.5	81.2	73.3	74.4
Cincinnati, Ohio.	75.1	77.4	80.0	79.2	73.5	78.7	74.0	72.4	77.0	72.8	79.7	75.4	75.6
Cleveland, Ohio.	71.4	71.0	71.8	71.8	69.8	75.6	71.4	70.3	73.2	69.2	76.8	71.6	71.2
Concordia, Kans.	78.1	80.4	82.2	82.1	73.7	81.2	81.1	78.2	81.6	77.4	79.2	75.4	78.8
Des Moines, Iowa.	75.4	76.2	78.2	78.6	71.0	81.4	78.6	75.6	79.8	73.8	79.6	73.0	78.2
Devils Lake, N. Dak.	68.1	65.3	64.2	71.8	62.4	72.9	70.0	63.2	70.0	67.2	70.0	65.7	71.2
Dodge City, Kans.	78.4	78.6	80.7	79.3	74.3	80.3	80.4	78.5	79.6	77.9	78.4	77.2	79.3
Dubuque, Iowa.	74.1	73.2	75.0	76.4	69.6	80.3	73.8	72.3	76.6	71.2	79.0	71.0	76.5
Duluth, Minn.	63.9	62.6	60.4	65.4	59.8	68.0	64.5	63.3	67.1	62.8	70.8	63.6	64.6
El Paso, Tex.	80.5	81.0	81.5	78.0	81.1	81.3	83.9	81.0	79.4	82.6	79.8	81.9	82.1
Eureka, Calif.	55.3	55.2	57.2	54.1	56.8	56.4	54.8	55.4	54.2	56.9	53.8	55.1	58.2
Evansville, Ind.	79.3	78.4	81.4	82.2	77.0	82.0	78.2	78.6	82.1	77.8	84.0	78.5	80.2
Fort Worth, Tex.	83.7	85.8	85.1	86.6	81.9	84.8	84.6	85.1	81.4	82.8	83.4	85.0	85.2
Fresno, Calif.	82.0	79.8	80.9	80.5	80.3	79.5	86.0	79.9	82.9	79.4	83.9	83.6	79.8
Galveston, Tex.	83.4	83.2	83.2	83.0	83.0	82.8	83.3	83.6	82.0	82.2	82.2	82.2	81.8
Grand Rapids, Mich.	72.6	70.8	72.8	73.8	69.4	78.8	71.6	71.6	75.7	68.9	79.8	71.2	73.4
Greenville, Me.	65.4	65.4	64.4	63.4	63.6	67.4	66.4	66.0	66.6	63.6	70.0	64.6	62.6
Havre, Mont.	68.3	63.6	65.3	72.0	62.4	68.3	73.7	68.0	71.8	72.4	69.8	67.2	71.2
Indianapolis, Ind.	75.7	74.4	77.9	78.5	73.0	80.6	74.0	73.0	78.6	73.4	81.1	74.6	76.2
Iola, Kans.	78.1	80.2	81.6	80.4	75.0	82.4	80.5	78.9	80.6	77.7	80.8	77.6	80.2
Jacksonville, Fla.	82.1	81.8	82.3	82.0	81.8	80.4	81.0	79.0	81.0	80.2	79.4	82.0	80.9
Kalispell, Mont.	64.3	60.5	61.8	66.7	60.0	62.7	67.4	64.7	67.0	69.6	65.0	64.6	68.0
Little Rock, Ark.	80.9	82.0	81.6	82.7	80.0	83.6	80.4	80.4	82.2	80.4	82.2	80.6	80.0
Los Angeles, Calif.	70.2	68.8	70.5	66.8	70.0	66.8	72.3	69.9	71.0	71.2	71.8	69.5	70.0
Lynchburg, Va.	77.5	77.2	78.6	76.0	76.2	76.4	76.4	72.8	77.2	74.8	78.8	76.4	76.5
Madison, Wis.	72.1	70.8	71.4	73.8	67.7	78.1	71.8	70.3	74.8	69.1	78.1	69.6	74.2
Marquette, Mich.	64.9	65.4	63.1	66.4	60.2	70.4	64.6	62.9	68.4	62.2	72.4	63.0	65.0
Memphis, Tenn.	80.7	80.8	81.0	83.2	79.8	82.2	79.0	79.0	82.1	79.4	82.6	80.0	80.2
Miami, Fla.	81.9	82.0	81.3	81.2	81.9	80.8	81.0	80.4	80.8	81.2	81.2	80.6	80.7
Mobile, Ala.	80.7	81.3	81.4	81.8	82.9	80.0	81.4	81.0	81.6	81.0	82.2	81.0	79.8
Modena, Utah.	69.7	67.0	69.8	69.0	69.2	69.2	74.5	68.8	73.4	69.8	71.9	72.1	72.0
Nashville, Tenn.	79.1	77.8	81.5	81.4	78.6	78.8	77.2	76.2	80.6	77.6	82.0	78.2	78.5
New Orleans, La.	82.4	81.8	81.6	82.6	84.7	82.3	82.6	83.1	82.6	82.3	83.1	82.4	80.2
Norfolk, Va.	78.7	77.8	78.2	76.7	77.4	77.4	77.2	75.0	77.8	76.4	79.8	78.0	77.0
North Platte, Nebr.	72.9	74.0	74.4	76.0	69.4	80.0	76.2	74.7	77.2	74.8	76.8	72.7	75.9
Oklahoma City, Okla.	79.8	82.5	81.7	85.2	78.2	82.0	82.6	82.8	81.4	80.0	80.3	82.0	84.6
Omaha, Nebr.	76.7	78.3	79.8	79.4	71.3	82.0	79.0	77.2	81.8	76.4	79.6	74.0	79.5
Parkersburg, W. Va.	75.6	75.7	77.0	76.0	73.7	77.7	74.4	72.6	77.2	72.0	78.6	75.3	74.7
Peoria, Ill.	75.4	74.8	78.5	78.8	71.9	81.0	75.0	72.8	78.4	73.6	79.8	74.7	77.6
Phoenix, Ariz.	90.4	85.4	86.3	88.8	87.8	89.0	90.0	88.3	88.2	90.6	89.2	90.6	89.2
Pierre, S. Dak.	75.3	74.6	74.8	78.7	67.5	80.1	78.2	73.2	76.8	73.1	77.3	72.9	77.0
Pittsburgh, Pa.	74.6	78.2	73.6	74.0	72.0	76.6	73.6	72.0	75.4	70.4	77.6	73.9	73.2
Portland, Oreg.	66.7	67.4	67.8	66.6	67.2	64.2	69.0	67.6	68.0	68.0	65.7	68.2	67.8
Pueblo, Colo.	74.2	72.8	74.7	73.2	71.1	76.1	76.0	73.8	76.0	74.4	74.2	74.9	75.0
Roseburg, Oreg.	67.4	67.2	67.5	69.6	67.8	64.8	71.2	67.0	69.3	67.8	66.9	71.0	68.8
Sacramento, Calif.	73.2	71.6	74.4	71.0	72.8	74.2	78.6	72.2	72.8	71.6	75.3	75.9	73.4
St. Louis, Mo.	78.6	78.8	80.8	83.1	76.4	84.2	78.9	78.4	81.6	78.8	83.2	78.8	80.6
St. Paul, Minn.	72.1	70.5	69.9	74.6	67.1	78.2	72.4	69.9	73.6	70.2	76.7	66.8	75.2
Salt Lake City, Utah	75.7	73.6	78.5	75.2	75.2	76.8	79.0	75.6	80.3	78.6	77.4	76.6	78.3
San Antonio, Tex.	82.4	85.1	84.5	85.6	84.8	82.8	84.8	85.2	80.7	83.8	83.6	84.1	83.4
San Diego, Calif.	67.2	66.9	68.2	65.8	67.5	65.0	68.9	68.0	68.6	67.0	68.4	67.7	67.9
San Francisco, Calif.	58.5	57.9	59.6	57.0	60.2	60.0	59.3	58.8	57.0	57.8	59.8	60.2	60.8
Santa Fe, N. Mex.	69.0	68.2	69.6	67.0	67.6	68.8	71.5	69.3	67.8	68.7	67.1	70.2	69.7
Scranton, Pa.	72.1	71.8	71.6	70.4	70.4	74.2	72.7	70.4	72.4	69.6	76.0	71.4	70.8
Seattle, Wash.	63.5	63.4	63.4	64.2	64.3	61.1	69.4	63.0	63.0	64.2	60.8	62.9	64.4
Sheridan, Wyo.	67.3	65.2	64.9	70.4	61.2	70.6	71.2	66.4	72.6	68.6	69.9	66.0	72.9
Shreveport, La.	82.1	83.0	83.3	85.5	81.4	83.4	83.8	84.2	82.6	81.5	82.8	81.8	82.4
Springfield, Mo.	76.4	78.1	79.2	78.8	74.0	80.6	76.5	76.2	78.6	76.0	79.2	76.4	77.2
Thomasville, Ga.	81.8	82.8	82.3	81.8	82.6	79.4	80.4	79.2	79.6	80.4	80.9	80.9	78.4
Trenton, N. J.	74.5	75.5	75.6	72.0	78.7	74.9	75.1	73.2	75.1	73.0	76.3	73.4	72.9
Walla Walla, Wash.	74.1	72.6	73.9	77.2	73.0	69.8	77.2	75.1	76.4	76.5	73.3	73.0	70.9
Washington, D. C.	76.8	75.8	77.6	75.9	76.1	77.3	76.6	74.4	77.2	74.0	79.3	76.6	75.7
Winnemucca, Nev.	70.6	69.0	69.2	72.0	69.7	69.3	75.9	70.4	74.0	70.6	72.0	71.4	72.2

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal*[1] *and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Aug.	August monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	74.6	76.4	80.0	75.6	71.4	76.6	74.0	78.0	77.6	71.6	76.4	81.6	77.2
Atlanta, Ga.	77.0	76.9	78.6	76.8	77.2	78.0	75.4	78.8	76.4	75.1	76.7	75.8	77.4
Birmingham, Ala.	79.8	78.0	80.2	78.0	77.6	79.2	77.8	81.5	78.6	77.2	80.3	79.4	78.4
Bismarck, N. Dak.	67.3	66.2	71.2	64.5	65.2	67.4	66.6	68.8	70.6	7.04	70.2	72.6	65.4
Boise, Idaho.	71.8	68.1	73.2	72.8	78.2	70.4	74.0	67.3	74.4	72.2	74.0	74.4	73.1
Boston, Mass.	69.9	69.0	70.8	70.4	69.1	71.8	72.8	70.4	68.8	72.0	69.8	70.4	69.4
Brownsville, Tex.	83.9	84.0	83.4	85.1	86.0	82.6	85.4	85.7	86.2	86.2	84.2	84.8	84.4
Buffalo, N. Y.	68.6	64.8	68.6	68.8	66.2	71.6	68.2	70.6	66.9	70.2	68.3	68.2	67.2
Canton, N. Y.	67.8	61.8	65.8	65.6	64.5	69.2	67.8	67.0	65.2	69.0	66.8	66.2	64.5
Charleston, S. C.	81.0	81.2	80.1	81.3	82.0	81.8	80.2	82.2	81.0	80.2	80.8	78.1	81.8
Charlotte, N. C.	77.1	76.4	77.2	77.7	76.0	77.6	76.8	78.8	77.0	74.9	76.1	74.9	78.4
Cheyenne, Wyo.	65.6	65.4	68.4	65.4	61.0	63.8	61.4	65.0	68.0	62.8	65.6	69.0	63.7
Chicago, Ill.	72.8	71.0	74.3	74.2	66.6	76.6	70.4	75.7	73.4	71.0	72.8	73.2	70.8
Cincinnati, Ohio.	73.6	73.8	78.1	76.7	68.6	76.3	73.2	78.6	73.2	71.2	72.8	73.7	74.0
Cleveland, Ohio.	70.0	67.6	71.2	71.8	67.1	72.4	69.8	74.5	69.8	69.4	69.3	69.6	69.0
Concordia, Kans.	76.5	77.2	85.0	79.3	70.1	78.7	72.8	82.5	77.0	72.4	78.9	80.6	76.2
Des Moines, Iowa.	73.1	72.7	78.7	75.9	67.3	75.8	70.9	78.7	73.4	71.4	73.2	74.8	71.4
Devils Lake, N. Dak.	65.1	61.6	67.6	63.2	64.6	65.6	64.4	65.2	67.0	68.4	65.5	70.0	62.0
Dodge City, Kans.	77.7	76.5	82.4	77.1	70.0	78.6	73.6	80.6	79.4	72.4	77.8	80.0	77.9
Dubuque, Iowa.	71.7	69.7	74.2	72.8	65.6	75.0	68.6	74.6	70.8	69.6	71.6	72.5	69.6
Duluth, Minn.	62.6	57.4	62.2	62.0	61.6	65.1	59.8	64.6	65.0	63.6	63.6	64.2	60.3
El Paso, Tex.	78.6	77.8	78.6	78.5	77.7	77.8	79.2	77.4	81.0	77.0	80.4	82.6	78.8
Eureka, Calif.	55.8	57.2	57.8	54.6	57.9	56.0	54.0	56.6	55.9	56.1	55.8	56.9	59.7
Evansville, Ind.	77.0	75.3	80.8	78.0	71.4	79.0	76.6	82.4	77.2	75.6	77.0	77.8	78.4
Fort Worth, Tex.	82.9	82.0	85.9	80.0	79.1	83.6	84.2	87.0	82.0	78.1	86.4	85.2	85.2
Fresno, Calif.	81.2	77.7	83.0	80.3	81.9	78.2	81.2	79.2	81.2	81.5	79.9	79.1	79.0
Galveston, Tex.	83.0	83.8	82.9	82.2	81.3	83.0	83.5	82.7	83.4	82.4	83.6	83.1	82.4
Grand Rapids, Mich.	70.0	66.9	72.5	71.0	65.2	72.8	68.6	74.1	69.8	69.9	70.6	71.2	68.2
Greenville, Me.	62.5	58.5	62.2	61.9	61.4	65.2	64.7	62.6	60.8	66.6	61.0	63.2	59.2
Havre, Mont.	65.4	62.6	66.9	64.4	70.0	64.9	65.5	66.6	70.4	69.6	69.0	70.0	65.0
Indianapolis, Ind.	73.7	72.0	76.3	74.6	67.5	76.6	72.5	78.4	73.4	72.0	73.2	74.4	73.2
Iola, Kans.	76.3	79.1	84.4	78.4	70.0	80.9	74.1	83.8	78.4	74.0	78.4	79.4	80.8
Jacksonville, Fla.	81.7	81.8	80.8	82.0	82.8	81.6	81.2	81.2	81.5	80.6	80.5	78.8	81.9
Kalispell, Mont.	62.9	59.8	63.3	63.1	69.1	61.6	63.5	60.1	65.0	63.6	64.0	65.8	64.0
Little Rock, Ark.	79.8	79.0	82.1	78.2	75.3	81.3	77.7	82.8	81.0	77.4	81.4	81.5	81.5
Los Angeles, Calif.	71.1	69.2	71.9	68.2	72.6	68.6	70.0	71.7	70.2	72.4	70.6	73.3	69.6
Lynchburg, Va.	75.6	75.2	75.1	76.3	74.2	75.3	75.4	77.6	73.9	73.7	74.5	72.8	74.8
Madison, Wis.	69.8	67.3	70.6	70.3	63.8	72.8	67.0	72.6	69.0	68.8	70.0	71.2	67.9
Marquette, Mich.	63.5	57.7	64.2	63.0	60.4	66.7	60.4	63.6	65.2	62.8	64.2	64.8	60.8
Memphis, Tenn.	79.4	78.6	81.0	78.7	75.9	80.8	77.8	82.6	80.4	77.4	80.8	79.7	80.5
Miami, Fla.	82.0	83.2	81.6	81.6	82.6	80.6	81.3	81.5	82.6	80.0	81.1	81.2	81.6
Mobile, Ala.	80.5	81.0	82.4	80.6	81.4	82.0	81.0	81.2	81.9	80.2	82.5	81.1	80.6
Modena, Utah.	68.6	66.8	68.8	69.8	69.7	65.8	69.4	66.5	71.3	69.0	68.4	69.6	67.2
Nashville, Tenn.	77.8	76.7	80.6	77.6	74.1	78.4	75.6	81.2	77.6	75.0	78.0	76.8	76.4
New Orleans, La.	82.2	82.9	82.8	81.8	82.7	83.4	82.6	82.0	83.2	81.3	84.2	83.0	82.0
Norfolk, Va.	77.4	76.8	75.9	78.2	78.0	76.9	77.8	79.6	76.6	76.8	76.4	75.0	77.4
North Platte, Nebr.	70.8	70.6	77.3	74.0	68.2	74.0	69.4	74.6	73.0	70.0	73.0	76.8	70.2
Oklahoma City, Okla.	78.5	79.5	84.8	79.6	73.4	83.0	77.7	85.6	82.0	75.3	82.9	84.4	83.6
Omaha, Nebr.	74.4	75.3	82.4	77.0	68.4	76.5	71.8	80.8	75.0	72.6	75.6	77.7	72.9
Parkersburg, W. Va.	73.3	72.2	75.6	74.9	69.8	75.2	73.6	78.6	72.4	72.9	72.4	72.3	73.0
Peoria, Ill.	72.5	72.4	77.8	75.4	67.2	76.0	70.8	77.5	71.9	72.2	73.8	74.5	73.4
Phoenix, Ariz.	89.0	86.2	86.7	89.2	89.1	87.0	87.2	84.6	88.6	86.4	87.1	89.4	87.2
Pierre, S. Dak.	72.8	71.0	76.8	71.9	68.0	71.6	71.0	74.2	75.1	70.8	74.0	76.6	69.8
Pittsburgh, Pa.	72.9	68.8	73.2	73.2	69.1	74.2	72.2	76.6	70.0	71.6	70.2	70.8	71.0
Portland, Oreg.	66.7	65.8	68.6	68.0	71.2	68.0	70.3	67.4	68.6	69.3	67.0	67.2	70.6
Pueblo, Colo.	72.1	72.0	75.2	72.6	67.9	71.9	70.4	73.9	74.6	69.8	72.8	76.5	70.8
Roseburg, Oreg.	68.0	65.0	68.6	68.6	70.7	68.2	69.4	67.4	69.6	70.0	67.6	66.6	70.0
Sacramento, Calif.	72.9	71.6	76.9	71.2	75.0	71.8	72.6	74.0	72.8	76.0	72.1	72.8	73.5
St. Louis, Mo.	77.3	76.2	83.0	78.9	70.4	78.7	75.3	82.6	77.1	75.1	77.5	79.1	77.9
St. Paul, Minn.	69.4	66.5	72.2	68.8	65.4	71.6	66.5	70.4	68.5	69.2	70.0	72.0	66.9
Salt Lake City, Utah	74.5	72.5	75.8	75.6	78.0	72.9	73.9	72.4	77.4	73.7	74.6	76.2	73.0
San Antonio, Tex.	82.0	86.0	84.0	82.6	82.5	82.0	85.6	85.1	82.2	82.9	85.2	85.8	84.2
San Diego, Calif.	68.7	66.4	68.9	66.2	69.5	67.0	68.6	69.8	68.4	70.4	68.2	70.7	67.8
San Francisco, Calif.	59.1	59.9	62.1	58.2	61.3	58.5	57.6	60.9	58.4	60.1	59.6	60.4	61.7
Santa Fe, N. Mex.	67.4	67.2	68.6	66.8	65.4	66.8	67.8	67.8	69.0	65.0	66.0	70.7	65.8
Scranton, Pa.	69.2	66.6	70.6	70.8	67.4	71.8	71.5	73.3	67.6	70.8	67.8	68.7	68.4
Seattle, Wash.	63.1	62.2	64.8	63.2	66.8	63.6	65.2	62.6	63.0	64.4	62.0	62.7	65.7
Sheridan, Wyo.	65.4	63.6	68.0	65.1	65.4	65.9	64.0	65.8	68.2	67.0	68.0	71.1	64.4
Shreveport, La.	81.4	80.2	82.4	80.5	78.4	83.2	80.6	83.4	82.6	79.8	84.0	82.1	83.0
Springfield, Mo.	74.8	76.3	82.0	76.4	68.8	78.8	72.8	80.0	77.2	72.4	77.0	77.0	78.6
Thomasville, Ga.	81.0	80.4	80.0	81.0	82.2	81.0	80.4	80.4	80.8	80.0	81.0	79.4	79.9
Trenton, N. J.	73.0	72.0	72.8	74.4	70.9	74.0	74.8	75.4	70.6	72.4	70.2	71.0	71.6
Walla Walla, Wash.	73.8	69.6	74.9	75.2	79.3	74.0	76.8	70.0	75.6	73.8	74.6	74.2	75.4
Washington, D. C.	75.0	73.4	74.2	76.4	74.0	75.2	75.9	77.6	73.6	74.8	72.8	72.1	74.4
Winnemucca, Nev.	69.3	66.7	71.0	70.6	72.0	66.4	71.0	65.7	71.2	68.6	69.8	67.8	67.8

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal[1] and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Sept.	September monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex	67.7	64.6	64.8	72.8	68.8	67.8	69.4	65.4	71.2	70.8	73.5	73.1	69.8
Atlanta, Ga	72.4	75.3	70.4	71.4	74.9	71.4	70.0	68.2	74.2	73.9	79.4	75.3	74.6
Birmingham, Ala	74.0	76.2	72.8	72.5	76.3	73.6	72.6	70.0	75.9	76.5	81.6	78.8	75.8
Bismarck, N. Dak	58.1	52.6	59.0	61.0	56.0	56.8	57.6	53.9	61.0	60.3	59.2	61.4	61.0
Boise, Idaho	61.9	57.7	62.2	61.4	60.4	62.5	66.0	65.2	62.2	63.2	57.6	66.0	65.7
Boston, Mass	63.2	63.7	62.0	64.6	66.8	65.0	60.2	61.2	63.9	65.2	68.5	65.2	64.2
Brownsville, Tex	80.5	81.8	79.2	80.9	82.2	80.0	78.8	80.8	82.3	84.4	83.0	80.7	83.0
Buffalo, N. Y	62.4	64.6	60.8	61.6	64.6	62.0	59.4	56.0	63.1	64.3	67.6	64.4	62.9
Canton, N. Y	59.3	58.0	56.4	57.4	61.4	60.1	56.6	54.4	58.8	61.3	63.2	61.2	59.4
Charleston, S. C	76.6	79.2	75.0	74.4	79.2	75.1	73.4	73.2	76.3	77.8	81.9	76.8	77.8
Charlotte, N. C	71.5	75.0	68.6	69.2	73.2	70.0	67.6	67.0	72.7	72.7	79.2	73.5	73.7
Cheyenne, Wyo	57.0	49.2	54.0	58.0	54.6	55.8	58.6	53.1	59.0	57.1	58.4	60.8	55.8
Chicago, Ill	66.3	67.7	65.4	66.6	67.2	64.4	63.7	59.6	68.9	69.3	70.0	69.5	65.1
Cincinnati, Ohio	67.1	70.9	68.4	68.4	68.4	65.2	64.9	59.9	69.6	67.8	72.3	70.6	68.3
Cleveland, Ohio	63.9	66.6	62.6	62.6	67.0	63.8	60.5	58.2	66.4	65.8	69.0	67.0	64.7
Concordia, Kans	68.1	65.8	68.0	72.4	68.6	67.2	68.4	63.2	71.4	69.7	73.8	73.0	69.6
Des Moines, Iowa	65.6	63.2	65.9	65.8	65.6	64.3	64.0	60.2	68.9	68.0	69.4	68.0	65.2
Devils Lake, N. Dak	55.6	51.4	56.4	58.4	55.0	55.0	55.9	50.4	57.1	59.4	56.6	59.4	58.2
Dodge City, Kans	69.4	64.0	64.8	72.6	68.4	67.0	69.4	63.4	73.1	69.4	73.0	72.4	69.6
Dubuque, Iowa	64.0	63.8	63.6	64.4	64.4	62.2	61.8	57.4	66.1	66.4	66.9	65.9	62.8
Duluth, Minn	55.1	54.8	53.9	56.0	55.6	53.0	53.6	50.4	55.8	60.3	58.2	58.2	56.4
El Paso, Tex	72.7	71.0	69.2	74.3	73.6	73.0	73.8	73.6	72.6	75.1	76.5	75.6	73.5
Eureka, Calif	54.9	57.2	56.2	55.0	54.5	55.8	56.4	56.6	56.5	57.2	55.4	56.0	57.2
Evansville, Ind	69.7	71.8	70.4	69.6	72.6	69.4	70.4	63.5	74.4	72.8	75.6	74.6	70.8
Fort Worth, Tex	76.7	76.9	72.9	77.4	77.1	77.4	75.8	73.0	75.6	77.9	81.9	79.4	78.5
Fresno, Calif	74.3	73.2	76.6	71.6	73.0	73.2	75.4	72.5	73.2	72.2	72.8	79.1	76.4
Galveston, Tex	80.1	81.6	76.8	80.2	81.2	79.4	79.4	77.0	80.0	81.4	82.6	80.2	79.8
Grand Rapids, Mich	61.8	64.0	63.2	62.6	64.4	61.4	60.3	56.2	65.3	65.9	67.8	65.2	63.0
Greenville, Me	55.0	52.9	53.4	56.8	58.4	56.2	53.4	52.2	53.4	56.6	57.2	55.4	56.2
Havre, Mont	56.4	48.6	57.0	56.8	51.8	55.4	56.6	55.2	57.0	58.7	52.6	60.8	57.8
Indianapolis, Ind	66.9	68.1	66.0	66.4	68.1	65.4	65.2	59.8	70.3	69.4	70.8	71.2	67.0
Iola, Kans	68.6	67.6	68.9	71.8	70.6	68.4	69.8	63.8	73.0	71.0	75.0	72.8	71.9
Jacksonville, Fla	78.3	81.0	77.3	77.2	79.8	76.8	75.9	75.8	77.4	78.8	81.6	76.8	78.6
Kalispell, Mont	53.9	48.4	53.4	52.6	51.4	53.0	56.8	56.8	54.0	54.2	48.8	57.8	57.0
Little Rock, Ark	74.1	74.8	71.7	74.6	76.0	72.8	72.5	69.0	75.3	75.2	79.6	77.7	73.2
Los Angeles, Calif	69.0	68.7	73.6	67.9	68.0	65.2	70.8	72.2	68.3	68.4	69.3	73.1	70.4
Lynchburg, Va	69.0	72.0	67.5	66.7	70.6	66.8	64.9	64.3	69.8	69.5	75.5	70.9	70.0
Madison, Wis	62.4	62.6	61.2	62.5	62.6	59.4	60.0	55.9	64.2	65.5	66.0	66.1	61.7
Marquette, Mich	56.8	58.4	56.2	58.2	57.6	55.1	55.8	49.3	59.2	60.8	62.2	61.6	56.8
Memphis, Tenn	73.6	74.2	72.8	73.8	76.0	72.0	72.2	67.6	76.2	74.8	80.0	76.3	73.8
Miami, Fla	81.5	82.4	80.3	78.8	81.0	79.6	79.2	79.5	80.4	80.4	80.9	80.1	80.0
Mobile, Ala	77.9	79.2	76.6	76.8	79.8	77.0	76.8	74.3	78.6	79.9	82.2	79.4	79.6
Modena, Utah	60.2	54.4	59.7	60.6	58.8	60.4	60.3	60.8	61.2	59.0	60.2	65.1	58.2
Nashville, Tenn	71.8	73.9	72.2	71.0	73.8	69.2	70.3	65.4	72.8	72.2	78.0	74.2	71.8
New Orleans, La	79.2	82.0	78.0	78.8	81.2	79.3	78.2	76.9	80.2	81.5	83.4	80.8	81.2
Norfolk, Va	71.6	74.2	70.8	69.4	74.2	70.3	68.2	69.1	72.6	73.9	77.8	73.6	73.6
North Platte, Nebr	62.1	58.1	62.8	65.5	62.1	62.8	63.6	58.9	67.8	64.2	65.0	67.8	63.8
Oklahoma City, Okla	72.1	70.4	70.1	75.5	73.8	72.2	73.3	68.0	74.3	73.8	78.0	77.0	74.0
Omaha, Nebr	66.8	63.0	67.5	68.2	66.4	65.4	66.2	62.4	70.8	68.8	71.4	71.0	67.4
Parkersburg, W. Va	66.1	70.2	66.4	65.5	69.4	64.2	64.0	61.0	68.6	68.8	72.8	70.4	68.4
Peoria, Ill	64.3	67.0	66.8	66.2	67.8	63.6	63.7	58.2	68.2	68.5	70.0	69.6	65.4
Phoenix, Ariz	81.4	78.9	81.7	84.5	79.9	80.9	83.2	82.4	81.5	80.4	82.6	85.0	80.2
Pierre, S. Dak	63.8	57.4	65.0	66.0	61.2	62.2	62.6	58.9	66.4	64.5	63.4	67.6	64.4
Pittsburgh, Pa	66.4	68.6	65.0	63.6	68.8	64.2	62.1	59.8	66.4	66.8	70.8	69.6	67.4
Portland, Oreg	61.7	62.2	62.3	59.4	62.4	62.5	63.1	67.4	62.5	61.2	60.5	63.8	64.5
Pueblo, Colo	64.4	57.4	61.0	66.8	64.2	63.2	65.5	60.8	67.5	64.2	66.7	68.3	63.0
Roseburg, Oreg	62.9	61.1	62.9	60.1	61.7	62.6	63.5	66.6	61.0	61.2	60.5	65.1	64.3
Sacramento, Calif	69.3	69.5	73.0	67.5	68.9	70.2	71.4	67.4	69.7	67.5	70.6	75.6	72.7
St. Louis, Mo	70.1	70.8	69.9	69.6	72.4	68.3	69.0	63.6	73.6	72.5	74.4	73.8	69.0
St. Paul, Minn	61.3	60.7	60.8	61.8	60.0	59.2	59.4	54.6	63.9	65.0	63.2	65.0	62.4
Salt Lake City, Utah	64.4	58.0	63.5	64.4	62.4	65.3	66.4	66.6	66.8	64.7	62.6	69.2	64.2
San Antonio, Tex	77.1	81.6	75.6	79.6	79.8	78.0	79.3	76.4	77.8	82.1	81.7	79.6	79.2
San Diego, Calif	67.1	65.8	70.3	66.0	66.4	64.4	68.2	70.6	66.5	66.2	66.8	70.0	68.2
San Francisco, Calif	60.9	63.4	64.6	60.8	62.4	62.2	64.0	62.2	62.0	60.4	63.3	63.3	64.0
Santa Fe, N. Mex	60.9	58.1	57.2	63.0	59.6	60.8	62.6	60.4	61.4	60.4	63.5	63.8	58.6
Scranton, Pa	63.0	63.8	62.4	60.9	65.8	62.2	59.4	58.6	63.9	63.9	68.1	65.6	64.0
Seattle, Wash	57.9	59.2	58.8	56.7	59.1	58.8	58.9	62.2	59.6	57.8	57.0	59.8	60.8
Sheridan, Wyo	56.3	48.7	55.8	57.2	52.8	55.2	57.9	55.0	59.6	57.5	55.0	60.8	56.6
Shreveport, La	75.7	77.4	73.4	77.2	77.6	76.2	74.1	72.2	76.4	78.6	81.7	78.8	75.6
Springfield, Mo	67.9	68.7	68.4	70.6	70.7	68.2	68.0	62.8	72.6	70.0	74.3	72.7	69.2
Thomasville, Ga	76.8	78.8	75.6	75.3	80.3	76.0	75.2	74.0	77.6	78.8	82.2	78.1	78.6
Trenton, N. J	66.9	68.2	65.2	65.2	69.4	66.1	62.0	62.6	66.0	67.2	70.6	67.2	67.6
Walla Walla, Wash	65.4	62.3	64.8	61.6	63.4	64.2	66.8	68.8	63.0	63.4	59.6	68.4	67.1
Washington, D. C	68.1	70.4	67.4	66.0	71.0	66.6	63.8	64.2	66.4	68.8	74.4	69.9	69.6
Winnemucca, Nev	59.2	55.0	61.8	57.8	57.1	59.1	61.4	61.6	59.4	60.0	57.4	62.4	60.4

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal[1] and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Oct.	October monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	56.1	58.2	55.2	58.0	59.0	57.2	55.7	60.0	57.8	60.7	62.8	60.4	58.1
Atlanta, Ga.	63.0	64.0	60.0	62.4	65.3	62.3	66.6	65.8	70.8	64.7	61.0	63.2	62.1
Birmingham, Ala.	64.4	65.6	60.4	63.8	66.9	65.6	67.9	68.2	74.5	66.4	62.8	65.8	63.6
Bismarck, N. Dak.	44.9	45.0	41.1	51.0	48.6	41.8	46.4	47.5	54.6	50.6	48.9	47.6	45.6
Boise, Idaho	51.1	48.2	48.0	54.4	54.4	48.7	53.2	53.6	44.9	48.4	55.6	56.2	50.2
Boston, Mass.	53.6	57.4	56.4	57.0	55.7	55.5	51.9	56.2	55.1	59.8	55.2	55.1	55.5
Brownsville, Tex.	74.6	73.8	73.8	75.1	75.2	74.8	73.2	77.4	80.2	75.8	75.8	73.7	73.6
Buffalo, N. Y.	51.9	53.6	53.4	55.2	52.8	52.6	45.5	53.4	55.2	57.2	52.2	51.9	50.3
Canton, N. Y.	47.2	49.5	50.8	50.4	50.4	48.2	42.8	48.0	47.5	52.8	47.8	46.3	46.6
Charleston, S. C.	67.8	68.0	66.1	68.4	70.8	67.4	63.7	70.7	76.8	67.5	66.6	68.7	66.4
Charlotte, N. C.	61.7	62.4	61.0	62.2	64.4	61.0	57.0	64.0	69.9	62.7	60.8	62.8	61.3
Cheyenne, Wyo.	44.8	44.0	41.5	47.6	48.0	42.9	42.3	48.2	40.5	46.0	50.8	47.5	38.7
Chicago, Ill.	55.1	55.8	53.3	59.4	56.4	54.4	45.0	57.4	57.2	61.9	54.8	57.6	52.5
Cincinnati, Ohio	55.7	59.1	57.2	60.5	58.0	54.9	48.0	59.0	61.8	60.2	55.2	57.9	53.8
Cleveland, Ohio	53.6	55.8	53.9	56.8	55.4	52.7	46.5	56.0	58.8	59.5	53.6	55.4	52.2
Concordia, Kans.	55.4	56.9	58.4	58.6	58.4	56.1	49.0	59.6	52.1	60.8	59.4	59.8	51.6
Des Moines, Iowa	53.4	54.2	51.2	57.4	56.8	53.2	44.7	56.6	52.1	60.2	56.5	57.4	50.0
Devils Lake, N. Dak.	40.5	43.4	37.9	50.8	45.4	38.4	32.4	44.4	31.8	46.9	46.4	44.7	42.8
Dodge City, Kans.	56.1	56.3	52.8	57.8	58.0	56.2	50.2	59.8	53.3	59.8	59.6	59.9	51.0
Dubuque, Iowa	51.9	52.5	49.8	56.7	54.0	51.6	41.9	54.0	52.0	58.6	52.9	55.4	48.4
Duluth, Minn.	44.1	46.6	40.7	49.2	44.8	42.0	33.8	45.4	39.4	51.8	45.6	46.0	44.4
El Paso, Tex.	62.4	62.2	63.6	63.5	63.9	64.7	64.6	64.6	65.1	63.2	66.5	64.0	63.1
Eureka, Calif.	53.1	50.8	53.2	54.8	52.3	50.2	51.6	54.2	50.6	54.6	54.5	54.8	54.4
Evansville, Ind.	58.0	60.7	57.6	60.8	61.8	60.0	51.5	62.4	64.2	64.2	58.6	62.4	57.6
Fort Worth, Tex.	66.3	68.7	62.6	66.2	67.6	68.1	64.0	69.0	68.4	67.6	67.9	67.6	62.5
Fresno, Calif.	64.7	61.6	66.7	64.6	67.4	59.8	60.3	66.7	62.0	60.0	66.6	64.2	64.0
Galveston, Tex.	72.7	73.4	69.6	71.7	74.2	72.5	68.6	72.7	77.6	72.3	72.2	71.0	71.1
Grand Rapids, Mich.	50.1	52.2	51.8	56.5	52.8	51.1	42.9	53.8	54.6	58.8	52.0	53.0	49.6
Greenville, Me.	45.6	46.8	49.6	46.6	46.7	45.7	42.1	45.4	43.0	50.4	45.4	43.0	47.0
Havre, Mont.	44.5	43.2	40.8	46.2	49.2	39.9	41.8	48.9	34.4	46.7	50.6	47.9	44.2
Indianapolis, Ind.	55.7	57.3	55.0	58.4	57.6	56.1	46.9	58.3	60.4	61.6	54.9	59.1	53.1
Iola, Kans.	56.9	59.0	54.6	58.9	59.4	58.9	50.6	61.6	57.4	61.9	60.0	60.4	54.4
Jacksonville, Fla.	71.1	73.2	69.2	71.5	73.4	69.5	67.0	74.5	78.6	68.8	69.2	72.6	69.9
Kalispell, Mont.	42.5	41.4	39.4	43.2	46.2	40.5	43.5	47.0	36.4	42.4	46.4	47.6	44.0
Little Rock, Ark.	63.6	64.7	60.6	63.2	65.4	63.3	57.9	66.5	66.6	65.4	62.9	65.2	60.8
Los Angeles, Calif.	65.3	65.2	67.9	68.6	66.2	59.7	68.2	71.0	63.8	63.2	66.7	65.4	66.8
Lynchburg, Va.	58.5	59.4	59.7	60.9	60.6	57.7	53.0	61.0	65.4	60.8	57.6	60.6	56.6
Madison, Wis.	50.3	51.2	48.3	55.4	51.8	49.2	40.0	52.9	50.2	57.4	50.8	53.9	48.2
Marquette, Mich.	45.7	49.6	46.4	52.9	47.5	45.6	38.5	47.8	45.0	56.0	47.6	46.6	46.4
Memphis, Tenn.	63.3	64.6	60.6	63.3	65.6	64.0	56.6	66.6	68.0	66.5	62.9	65.3	60.8
Miami, Fla.	77.8	79.6	75.2	76.0	78.9	77.2	77.4	78.9	80.1	75.2	77.2	78.0	75.8
Mobile, Ala.	69.4	70.4	65.5	68.8	70.9	68.8	63.7	73.8	77.5	68.8	68.0	68.7	67.5
Modena, Utah.	50.1	44.2	46.5	49.9	50.6	45.0	51.1	51.1	42.2	44.3	54.0	49.5	44.8
Nashville, Tenn.	61.0	62.2	58.8	61.9	63.0	60.8	53.2	64.0	68.2	62.6	58.5	62.4	59.2
New Orleans, La.	71.0	72.5	68.0	70.3	73.4	71.6	66.4	74.6	79.5	71.4	71.2	71.6	70.2
Norfolk, Va.	62.5	63.6	62.2	63.9	64.4	63.0	58.2	65.2	70.0	64.0	62.0	64.3	61.0
North Platte, Nebr.	49.7	51.5	46.9	53.4	54.6	49.4	45.1	54.4	45.3	55.3	54.9	53.6	47.1
Oklahoma City, Okla.	61.3	63.6	57.4	61.6	62.8	62.4	57.3	65.2	59.7	63.9	64.0	63.3	56.5
Omaha, Nebr.	54.3	55.4	50.9	57.8	58.2	53.8	46.6	57.7	50.6	61.0	58.6	59.6	51.8
Parkersburg, W. Va.	54.6	57.3	55.8	59.2	57.8	55.3	50.0	59.2	63.4	59.8	55.7	57.6	54.4
Peoria, Ill.	52.0	54.8	52.0	57.2	55.6	54.2	44.2	56.2	55.8	60.2	55.6	58.0	50.4
Phoenix, Ariz.	70.2	68.0	69.6	71.2	73.8	66.2	72.7	71.8	66.7	67.0	73.8	71.6	67.3
Pierre, S. Dak.	49.8	51.3	46.0	54.0	53.8	47.8	42.9	53.4	40.8	55.2	53.0	52.2	49.3
Pittsburgh, Pa.	55.7	55.8	55.4	58.4	56.2	54.8	48.9	58.2	60.6	59.6	54.0	56.4	52.3
Portland, Oreg.	54.2	51.6	53.2	57.4	55.8	53.2	57.3	56.4	50.9	53.1	57.0	55.4	57.1
Pueblo, Colo.	52.3	51.4	49.3	53.6	54.0	51.6	49.9	55.8	49.9	53.2	56.5	54.2	47.6
Roseburg, Oreg.	53.9	49.8	53.4	56.3	54.6	50.9	54.9	56.4	49.4	52.2	57.1	55.2	54.2
Sacramento, Calif.	62.9	60.6	65.2	62.2	65.2	58.2	60.0	64.2	60.6	58.6	64.0	61.9	62.1
St. Louis, Mo.	58.4	60.8	56.2	60.8	61.7	59.2	51.1	62.3	60.8	64.0	59.6	62.2	59.4
St. Paul, Minn.	48.6	50.4	45.8	55.4	50.6	46.4	38.3	50.2	44.2	55.6	50.6	52.3	47.2
Salt Lake City, Utah.	52.5	49.8	50.4	55.8	56.3	49.8	54.2	55.0	44.6	49.4	58.6	55.9	48.7
San Antonio, Tex.	69.2	71.9	67.0	70.2	73.2	70.9	66.6	71.6	73.8	71.0	70.4	71.4	68.9
San Diego, Calif.	63.7	63.3	65.5	66.0	62.8	59.3	64.6	68.1	62.0	61.4	64.6	64.9	64.4
San Francisco, Calif.	60.5	60.0	61.5	62.0	61.3	56.9	62.3	64.0	60.7	60.2	61.5	60.6	62.4
Santa Fe, N. Mex.	50.4	49.0	47.8	49.4	52.0	50.8	51.9	52.0	47.1	48.8	53.0	51.4	45.8
Scranton, Pa.	52.2	54.6	55.8	56.8	58.4	52.2	47.4	55.4	56.6	57.5	52.6	54.3	51.6
Seattle, Wash.	50.8	49.9	50.1	54.6	58.7	49.1	52.5	53.4	48.5	50.1	53.2	53.5	54.6
Sheridan, Wyo.	48.7	41.6	40.6	46.6	48.4	39.6	41.0	48.5	35.7	44.5	49.2	47.3	41.0
Shreveport, La.	65.6	67.6	63.6	66.8	67.9	67.4	61.6	68.8	71.4	66.9	66.8	67.0	64.5
Springfield, Mo.	57.3	59.6	55.0	58.8	60.4	59.4	50.5	61.6	59.9	61.3	58.8	61.9	58.8
Thomasville, Ga.	68.2	70.3	65.0	68.2	70.6	68.9	64.4	73.0	78.5	67.1	67.0	69.7	67.9
Trenton, N. J.	56.6	58.6	58.2	59.0	56.6	56.1	51.6	58.1	58.5	59.6	55.0	57.7	54.8
Walla Walla, Wash.	53.7	50.9	51.4	54.4	56.8	52.4	56.6	57.0	50.2	52.0	57.0	56.5	53.7
Washington, D. C.	57.4	59.3	56.6	60.2	56.6	56.6	52.0	60.6	63.2	61.2	57.0	59.4	55.3
Winnemucca, Nev.	48.3	44.4	47.4	50.2	50.2	44.9	51.7	51.6	42.0	44.6	54.9	49.9	46.6

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal*[1] *and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Nov.	November monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	43.8	48.9	50.3	50.4	49.5	44.4	50.8	42.6	42.6	42.8	51.0	47.2	45.4
Atlanta, Ga.	52.1	50.0	54.8	52.4	54.2	52.4	51.3	51.6	54.7	50.3	54.7	52.9	49.8
Birmingham, Ala.	54.1	52.5	57.8	53.0	56.1	54.9	51.8	52.4	58.0	50.8	57.5	56.4	52.9
Bismarck, N. Dak.	28.5	23.9	25.2	24.6	32.6	30.6	40.2	31.4	18.2	29.6	22.6	23.2	28.6
Boise, Idaho.	41.0	42.0	43.5	41.8	39.5	36.5	44.4	39.6	37.0	40.8	44.7	37.9	42.6
Boston, Mass.	42.0	45.6	46.5	42.7	45.4	42.6	39.4	45.0	42.8	41.7	41.6	48.5	44.6
Brownsville, Tex.	67.5	64.2	71.7	67.2	70.2	66.5	68.7	65.8	70.5	64.5	71.8	67.5	63.6
Buffalo, N. Y.	39.4	42.5	43.4	40.0	42.4	39.2	35.0	43.0	38.4	38.4	37.6	42.0	40.2
Canton, N. Y.	33.9	35.9	40.0	34.6	37.7	33.8	28.0	37.4	34.2	32.6	30.8	37.9	33.8
Charleston, S. C.	58.1	56.5	57.0	57.0	61.4	59.2	54.4	56.6	62.2	57.4	62.0	60.1	55.9
Charlotte, N. C.	50.6	49.8	51.8	50.5	53.3	53.0	49.2	50.7	52.9	49.4	54.0	51.6	49.9
Cheyenne, Wyo.	34.8	36.4	39.1	41.4	37.0	31.2	40.8	30.9	20.6	31.8	38.6	31.4	37.4
Chicago, Ill.	41.2	42.8	47.2	44.4	44.2	42.2	43.0	43.5	39.2	40.2	40.8	44.6	43.8
Cincinnati, Ohio.	42.5	45.8	49.6	46.7	48.6	45.4	41.4	43.4	42.2	42.3	45.8	48.4	43.8
Cleveland, Ohio.	40.9	43.6	44.6	41.8	43.9	42.3	38.2	43.2	41.1	41.2	42.0	44.2	42.0
Concordia, Kans.	39.9	46.2	48.7	47.5	47.0	42.8	47.3	42.9	38.2	38.2	41.1	44.8	44.9
Des Moines, Iowa.	38.4	43.0	46.6	43.2	42.6	39.7	43.0	41.6	35.8	37.6	35.8	44.0	42.2
Devils Lake, N. Dak.	22.5	26.9	32.6	29.0	26.3	28.8	35.6	27.1	12.8	27.2	18.6	31.8	35.6
Dodge City, Kans.	42.6	45.0	46.0	48.4	47.4	42.0	48.6	41.7	38.7	39.4	43.5	45.5	45.2
Dubuque, Iowa.	37.0	40.8	44.2	40.6	41.2	37.6	40.2	41.2	34.6	35.6	34.2	42.7	40.9
Duluth, Minn.	30.0	32.0	35.6	29.8	29.8	29.2	34.4	33.6	21.6	28.4	23.2	34.2	35.6
El Paso, Tex.	50.9	49.3	54.8	54.7	52.8	51.2	55.4	49.1	52.4	51.6	54.4	50.1	51.2
Eureka, Calif.	51.0	52.4	50.8	50.8	49.8	47.5	52.8	50.0	48.2	51.2	52.0	48.2	53.6
Evansville, Ind.	45.3	46.6	52.0	49.2	50.4	49.5	46.8	47.2	46.3	44.7	49.7	49.2	47.4
Fort Worth, Tex.	55.1	55.2	62.4	57.1	60.1	55.4	57.4	53.6	53.6	51.9	61.6	57.5	56.0
Fresno, Calif.	54.6	55.2	55.2	57.4	53.8	51.2	56.7	52.8	53.0	54.0	57.0	51.0	53.2
Galveston, Tex.	63.8	62.8	66.4	63.1	67.0	62.9	62.6	60.9	65.4	59.2	67.7	65.6	60.9
Grand Rapids, Mich.	38.1	40.5	43.8	39.6	41.6	39.8	38.2	42.2	37.2	38.2	36.7	42.4	40.4
Greenville, Me.	30.7	32.2	34.0	28.4	32.6	29.2	27.2	32.6	30.6	28.4	27.2	31.2	34.8
Havre, Mont.	31.2	38.0	34.7	36.7	32.4	31.5	41.0	29.9	21.2	33.6	25.8	30.8	37.8
Indianapolis, Ind.	42.3	43.1	47.6	44.3	45.5	45.0	43.0	43.2	41.6	41.3	44.5	45.4	44.2
Iola, Kans.	43.0	45.8	52.4	49.5	49.8	46.8	47.5	45.6	43.0	41.6	45.6	47.8	47.2
Jacksonville, Fla.	62.2	59.6	63.2	61.6	66.0	63.1	58.0	60.4	66.6	61.6	65.8	64.8	59.6
Kalispell, Mont.	32.0	35.6	33.4	36.4	32.2	28.0	36.2	32.8	26.7	32.6	30.3	30.0	38.7
Little Rock, Ark.	52.1	51.8	58.2	54.2	55.5	53.5	52.9	51.0	52.8	48.4	55.8	54.2	52.6
Los Angeles, Calif.	60.9	65.1	61.8	57.0	61.8	59.4	63.7	60.8	61.5	60.1	63.2	59.6	64.4
Lynchburg, Va.	47.2	47.4	49.9	46.6	46.1	48.4	45.2	46.8	48.2	46.4	50.6	48.4	46.1
Madison, Wis.	35.2	38.6	41.9	38.2	38.8	35.8	38.2	39.4	32.6	34.2	31.9	41.0	38.9
Marquette, Mich.	31.9	35.8	38.7	33.7	35.6	32.4	35.4	37.4	30.0	33.8	29.9	37.6	38.2
Memphis, Tenn.	51.7	51.2	57.6	53.6	55.9	54.0	51.8	51.0	52.1	48.7	55.8	54.6	52.8
Miami, Fla.	72.0	71.5	71.4	70.6	73.2	71.9	67.0	72.2	73.4	72.2	73.5	73.1	68.4
Mobile, Ala.	59.0	56.9	61.4	59.0	61.8	60.0	56.6	59.0	63.8	56.2	63.3	62.8	57.2
Modena, Utah.	30.0	38.2	30.2	38.4	38.0	33.6	39.0	33.9	34.8	36.1	41.7	34.2	39.0
Nashville, Tenn.	49.0	47.2	53.8	49.6	52.8	50.2	47.9	48.0	49.7	46.7	52.4	51.3	48.9
New Orleans, La.	61.6	59.4	64.8	61.2	66.2	62.6	59.0	61.7	66.4	58.2	66.6	66.6	59.9
Norfolk, Va.	51.4	51.6	52.5	51.0	52.4	52.4	47.8	52.0	53.0	52.6	55.8	51.8	50.6
North Platte, Nebr.	36.6	41.4	42.6	43.7	41.2	35.8	45.5	36.8	28.2	34.6	38.9	38.8	42.5
Oklahoma City, Okla.	47.9	50.0	55.8	53.6	53.8	49.7	52.4	48.2	45.4	45.2	51.5	51.3	50.2
Omaha, Nebr.	38.5	43.6	46.4	45.4	43.9	40.6	45.8	41.6	36.0	37.2	36.9	44.2	43.6
Parkersburg, W. Va.	43.2	44.9	46.5	45.4	47.0	45.5	40.6	44.2	44.8	43.0	47.2	46.0	44.0
Peoria, Ill.	37.5	41.8	47.2	43.4	43.8	42.4	41.8	41.9	37.9	38.6	39.9	43.2	42.2
Phoenix, Ariz.	58.7	59.8	61.6	63.9	59.2	55.8	60.9	57.2	57.0	58.6	60.9	55.9	59.1
Pierre, S. Dak.	33.6	40.6	40.6	41.3	36.2	35.4	43.4	36.2	25.3	32.2	29.4	36.7	42.6
Pittsburgh, Pa.	43.2	44.1	45.1	42.9	45.2	44.5	39.8	43.8	42.6	42.2	44.6	45.3	43.9
Portland, Oreg.	46.8	47.1	47.5	47.0	45.4	43.7	50.6	46.6	45.0	46.8	48.8	48.6	50.4
Pueblo, Colo.	39.3	41.5	42.8	43.5	42.8	38.3	44.8	36.3	36.8	37.8	42.8	37.6	41.3
Roseburg, Oreg.	45.9	46.8	47.4	46.8	47.4	42.8	49.0	45.8	44.8	45.6	49.8	44.8	49.9
Sacramento, Calif.	53.6	52.4	53.6	55.6	53.0	50.5	55.2	50.6	52.4	51.0	54.8	49.6	53.5
St. Louis, Mo.	46.1	47.4	52.4	50.3	50.9	49.2	47.7	46.2	44.8	43.7	47.3	48.8	47.9
St. Paul, Minn.	32.5	37.0	40.0	36.0	35.3	33.8	36.2	37.3	26.6	32.6	27.9	38.6	38.3
Salt Lake City, Utah.	41.1	42.7	44.0	43.4	43.6	36.2	44.0	38.8	38.4	40.4	45.9	38.0	43.2
San Antonio, Tex.	59.2	59.7	66.2	61.2	63.8	59.0	63.4	57.4	60.6	57.4	65.6	61.9	58.7
San Diego, Calif.	59.7	61.2	60.8	64.4	59.6	56.5	60.8	59.8	58.6	58.2	60.4	58.9	64.0
San Francisco, Calif.	56.3	56.6	55.2	59.0	56.1	54.4	58.7	55.6	56.0	55.4	57.8	54.8	60.3
Santa Fe, N. Mex.	38.9	39.2	42.4	43.0	39.8	38.9	45.1	35.0	38.6	37.7	43.0	35.8	38.3
Scranton, Pa.	40.6	43.9	44.9	40.2	42.1	40.8	46.8	42.4	41.0	40.2	41.2	42.4	41.4
Seattle, Wash.	44.5	46.2	46.2	47.2	43.7	43.9	49.6	45.8	44.9	47.0	45.4	43.6	47.4
Sheridan, Wyo.	32.8	35.9	36.8	36.6	32.6	28.9	41.8	29.4	24.4	28.3	29.6	32.8	38.4
Shreveport, La.	55.3	54.9	62.7	56.8	59.3	56.4	55.1	54.1	57.8	52.2	62.6	58.3	55.5
Springfield, Mo.	44.4	46.4	53.9	50.6	50.7	48.3	47.4	45.3	44.4	41.6	48.4	48.1	47.9
Thomasville, Ga.	58.5	54.8	59.8	58.1	61.7	59.8	55.9	57.8	64.2	56.8	63.8	62.2	58.4
Trenton, N. J.	44.4	46.4	46.2	43.5	44.5	43.7	40.6	44.8	43.8	43.2	44.6	45.9	44.0
Walla Walla, Wash.	42.9	45.5	46.9	44.6	42.7	36.5	46.6	42.7	40.5	41.8	43.9	36.9	44.3
Washington, D. C.	45.2	46.9	47.8	45.4	46.2	44.3	42.8	46.3	46.9	45.9	47.5	47.9	45.1
Winnemucca, Nev.	38.4	39.6	39.0	37.8	37.2	33.0	41.9	34.2	36.0	37.6	41.0	33.6	39.7

[1] Normals are based on records of 30 or more years of observations.

TABLE 736.—*Temperature: Monthly normal*[1] *and mean temperature, at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Dec.	December monthly mean temperature.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	°	°	°	°	°	°	°	°	°	°	°	°	°
Amarillo, Tex.	36.4	33.6	33.2	30.4	40.2	36.6	36.1	32.4	37.0	39.0	43.5	41.8	34.0
Atlanta, Ga.	44.7	45.8	45.9	40.3	43.7	45.0	36.2	48.2	44.8	43.1	48.3	50.5	51.3
Birmingham, Ala.	47.3	46.0	47.2	41.9	46.7	46.8	39.2	50.4	45.8	45.6	50.2	53.2	53.3
Bismarck, N. Dak.	14.7	22.0	24.6	7.4	19.8	3.6	3.2	21.6	11.5	17.8	18.6	13.0	25.4
Boise, Idaho	32.1	31.6	26.9	24.0	33.6	28.4	43.2	29.6	23.6	34.3	32.9	30.0	31.6
Boston, Mass.	32.5	38.5	37.8	30.4	34.2	32.6	23.7	34.7	28.7	35.6	31.4	30.9	40.4
Brownsville, Tex.	61.5	57.6	61.4	54.2	65.2	65.3	62.9	61.7	60.8	64.1	67.7	67.4	61.8
Buffalo, N. Y.	29.8	34.4	33.6	26.0	27.8	28.4	20.8	35.0	23.3	32.7	29.9	28.9	37.6
Canton, N. Y.	22.7	26.9	27.0	20.6	23.1	18.6	8.6	24.0	17.2	23.3	21.8	21.4	31.7
Charleston, S. C.	51.7	53.6	52.0	48.8	48.2	53.0	42.0	53.5	51.4	51.4	55.0	56.3	56.9
Charlotte, N. C.	43.0	45.4	44.6	38.4	41.4	43.3	33.4	47.2	41.6	43.0	47.1	46.6	50.2
Cheyenne, Wyo.	28.5	25.3	22.0	20.2	28.8	21.0	30.4	26.7	28.0	27.9	30.2	29.5	27.4
Chicago, Ill.	30.0	33.4	37.4	24.1	29.1	26.0	22.4	37.7	21.4	32.4	32.5	29.9	39.7
Cincinnati, Ohio.	33.4	37.2	39.1	30.2	32.7	31.6	22.3	41.8	27.4	35.4	36.4	35.2	43.5
Cleveland, Ohio.	31.2	33.8	35.4	27.0	30.8	29.0	22.4	38.7	25.7	33.6	32.6	31.8	40.4
Concordia, Kans.	29.5	35.6	35.0	19.9	33.4	25.6	23.5	35.0	24.4	32.1	34.3	31.4	35.6
Des Moines, Iowa.	26.1	31.7	34.0	18.7	27.8	22.0	16.7	34.2	16.6	28.8	30.0	25.6	35.8
Devils Lake, N. Dak.	8.0	16.2	21.1	3.6	12.4	.8	−3.6	14.9	5.0	11.6	15.2	6.0	20.4
Dodge City, Kans.	32.6	34.6	33.6	23.4	34.6	29.0	28.2	34.0	29.6	35.1	33.4	33.7	34.5
Dubuque, Iowa.	24.7	30.2	34.2	18.4	25.5	19.3	15.8	33.0	14.4	27.3	27.2	23.8	34.4
Duluth, Minn.	15.9	17.9	26.7	9.4	18.6	8.8	4.4	23.6	5.6	19.3	14.8	11.8	24.0
El Paso, Tex.	44.8	40.0	41.8	42.8	44.8	45.0	49.6	41.2	47.2	43.4	49.4	49.2	42.6
Eureka, Calif.	48.0	46.6	48.4	45.3	48.4	43.2	51.2	46.3	48.1	48.4	48.4	47.6	45.3
Evansville, Ind.	36.4	37.9	40.4	31.0	36.8	35.2	26.6	44.7	32.2	38.4	41.0	39.4	46.6
Fort Worth, Tex.	47.5	45.5	45.6	39.7	50.9	48.0	41.6	49.8	44.4	48.3	51.2	52.8	50.7
Fresno, Calif.	46.8	45.5	46.9	44.7	48.2	45.4	49.7	45.0	47.1	47.5	50.4	49.8	46.2
Galveston, Tex.	56.4	55.4	55.6	50.2	57.9	57.7	52.8	56.8	57.2	56.0	60.2	62.4	58.8
Grand Rapids, Mich.	28.8	32.8	35.1	24.6	27.0	25.4	21.1	34.5	21.4	32.0	30.2	27.7	36.6
Greenville, Me.	18.0	22.2	22.2	15.8	22.0	17.8	7.8	20.6	11.4	20.2	16.4	15.1	26.8
Havre, Mont.	20.4	28.7	23.6	10.8	24.4	7.0	8.4	26.4	16.9	22.6	20.0	11.4	25.6
Indianapolis, Ind.	32.2	34.6	37.2	25.8	31.0	29.5	22.8	40.3	26.1	33.2	35.2	33.4	42.4
Iola, Kans.	32.5	35.6	37.6	26.2	36.8	30.2	25.4	38.8	28.6	37.0	36.6	36.0	38.6
Jacksonville, Fla.	56.3	59.8	58.2	54.6	53.8	58.0	48.4	58.2	56.1	55.4	59.7	61.6	61.8
Kalispell, Mont.	23.9	27.2	24.8	19.0	23.3	14.9	26.2	28.1	17.6	27.9	21.0	18.3	24.5
Little Rock, Ark.	44.2	43.3	44.8	36.9	46.0	43.4	35.4	49.6	40.6	44.6	48.0	48.4	51.2
Los Angeles, Calif.	56.6	56.6	55.4	53.4	57.4	52.6	62.8	57.2	58.9	55.8	60.2	58.3	58.8
Lynchburg, Va.	39.5	41.4	43.5	35.0	38.0	38.6	29.0	42.9	36.1	40.2	42.3	42.5	47.4
Madison, Wis.	22.8	27.8	32.0	16.4	23.9	18.0	13.9	31.4	12.6	26.2	24.4	21.6	32.5
Marquette, Mich.	22.9	24.8	31.6	18.4	24.6	18.6	14.6	28.8	13.7	27.0	22.9	19.1	31.4
Memphis, Tenn.	43.6	43.1	45.0	36.2	45.0	43.4	34.0	50.2	40.4	44.6	48.1	48.4	51.5
Miami, Fla.	68.0	72.6	67.9	69.5	65.6	69.0	63.6	67.8	68.8	68.0	69.6	71.8	70.6
Mobile, Ala.	52.9	53.6	53.8	49.4	53.8	53.9	48.2	55.0	55.0	51.0	57.4	60.1	58.2
Modena, Utah.	31.7	26.8	24.9	21.2	28.8	23.4	36.1	26.6	26.1	27.6	34.4	33.2	26.9
Nashville, Tenn.	41.0	40.4	42.6	35.8	42.4	38.8	31.4	47.4	38.8	41.6	44.8	46.0	49.4
New Orleans, La.	55.6	55.4	55.0	50.8	56.7	57.4	51.4	57.5	57.0	54.1	60.8	63.5	60.9
Norfolk, Va.	43.1	47.7	45.5	40.0	40.5	42.7	33.8	47.4	40.5	45.6	44.2	46.6	51.1
North Platte, Nebr.	26.7	29.6	28.6	18.0	28.2	19.4	23.7	28.5	19.4	27.0	30.7	27.8	30.4
Oklahoma City, Okla.	38.6	39.0	39.4	31.4	43.4	37.6	31.6	40.8	33.8	40.8	42.7	42.6	42.2
Omaha, Nebr.	26.4	32.8	34.2	18.2	29.6	22.2	18.0	34.8	19.4	28.7	31.7	27.2	35.2
Parkersburg, W. Va.	35.2	37.0	36.1	30.6	34.2	34.2	24.8	43.3	30.4	37.8	37.4	37.4	45.2
Peoria, Ill.	28.1	32.6	35.7	20.8	27.8	25.2	19.8	36.6	20.6	30.8	32.2	28.8	38.0
Phoenix, Ariz.	51.9	48.9	50.7	50.3	51.6	41.7	54.6	49.6	54.2	49.7	56.0	55.0	52.0
Pierre, S. Dak.	21.8	29.5	28.6	15.1	25.8	12.5	13.1	25.5	18.6	24.9	25.9	16.4	29.7
Pittsburgh, Pa.	34.2	35.8	35.8	29.9	31.8	32.9	24.5	41.0	28.2	35.6	34.0	35.6	43.0
Portland, Oreg.	41.2	41.4	40.7	36.8	42.0	38.1	48.4	42.3	33.6	44.1	39.1	38.0	41.5
Pueblo, Colo.	31.7	31.2	22.1	24.6	32.6	29.8	35.4	30.2	30.9	33.8	34.2	36.5	32.2
Roseburg, Oreg.	41.8	41.4	41.5	37.0	43.2	39.0	48.4	40.4	39.6	42.7	39.0	42.2	40.6
Sacramento, Calif.	46.2	46.9	45.7	43.8	47.5	44.2	49.2	43.4	44.1	45.4	49.0	47.4	45.6
St. Louis, Mo.	34.8	38.6	41.2	28.6	35.4	33.6	26.8	43.0	29.6	37.5	38.6	36.7	44.4
St. Paul, Minn.	19.0	23.2	30.2	12.1	22.6	12.2	10.1	28.7	10.2	23.0	20.2	17.8	29.4
Salt Lake City, Utah.	31.9	30.7	30.6	29.0	33.7	27.8	41.8	31.2	24.6	31.7	36.4	33.1	29.3
San Antonio, Tex.	53.1	49.8	52.4	46.3	56.8	54.6	50.4	54.7	51.7	54.7	59.0	59.6	55.6
San Diego, Calif.	56.0	54.1	55.4	54.6	55.6	52.4	58.6	54.8	56.6	54.8	59.3	58.0	57.4
San Francisco, Calif.	51.3	51.6	50.6	48.7	52.2	48.9	54.6	50.2	48.8	51.0	52.9	50.6	51.0
Santa Fe, N. Mex.	30.7	25.9	26.4	26.0	32.1	27.9	38.2	27.0	34.2	27.4	36.6	34.0	29.1
Scranton, Pa.	30.0	35.5	34.7	28.0	29.4	30.4	21.3	36.2	24.9	33.6	29.6	30.8	33.7
Seattle, Wash.	41.2	41.6	42.4	39.7	42.0	38.0	45.0	40.9	38.6	43.4	39.1	38.4	42.2
Sheridan, Wyo.	22.1	28.6	24.4	14.2	24.8	14.6	21.2	28.0	13.7	24.6	22.6	17.0	23.6
Shreveport, La.	48.9	46.6	47.8	41.5	50.4	49.8	43.2	52.0	48.8	48.6	54.6	54.8	54.9
Springfield, Mo.	35.5	36.6	38.4	27.4	37.6	33.2	26.5	41.3	32.6	38.1	38.4	39.2	42.8
Thomasville, Ga.	52.5	55.0	54.0	50.4	50.8	54.6	46.0	54.8	53.0	51.4	57.8	59.5	59.4
Trenton, N. J.	34.4	37.4	38.3	30.6	32.4	32.2	24.7	38.4	28.9	37.4	33.0	32.9	42.0
Walla Walla, Wash.	36.0	39.0	31.6	26.0	38.2	30.5	46.1	37.8	22.6	39.8	31.3	30.8	38.0
Washington, D. C.	36.6	40.0	40.4	32.8	35.2	35.5	27.9	41.6	32.6	39.3	37.9	37.6	45.0
Winnemucca, Nev.	30.0	30.0	27.4	18.9	30.7	26.6	37.2	24.9	28.2	31.2	31.6	30.9	28.2

Weather Bureau.

[1] Normals are based on records of 30 or more years of observations.

TABLE 737.—*Precipitation: Normal [1] and total precipitation at selected points in the United States, 1912–1923.*

Station.	Normal for January.	January total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex	0.60	T.	0.11	0.06	0.72	0.36	0.69	1.01	T.	1.11	2.10	0.78	------
Atlanta, Ga	5.31	4.87	5.76	1.35	6.19	2.53	5.11	9.12	5.40	7.69	3.53	5.03	1.94
Birmingham, Ala	5.32	5.03	8.25	1.85	6.44	5.40	6.79	8.94	6.21	5.37	3.72	6.20	3.82
Bismarck, N. Dak	.54	.18	.37	.25	.08	.81	.65	.62	.09	.52	.12	.34	.29
Boise, Idaho	1.89	2.53	1.34	1.06	1.06	1.93	1.10	2.27	.85	.66	1.57	.90	1.62
Boston, Mass	3.82	2.87	2.38	3.26	6.33	1.23	2.82	3.11	3.02	2.72	2.24	1.41	6.07
Brownsville, Tex	1.35	3.28	2.05	.10	3.35	.19	.28	.08	4.56	1.13	2.26	1.51	.13
Buffalo, N. Y	3.30	3.00	5.56	3.96	5.02	2.96	2.79	5.64	1.28	2.58	.89	1.44	3.27
Canton, N. Y	3.16	2.59	4.93	1.70	3.05	2.52	3.33	2.37	1.37	1.09	1.22	1.82	2.86
Charleston, S. C	3.45	3.85	.99	2.10	7.44	1.34	2.69	1.13	1.68	1.60	1.58	2.48	2.21
Charlotte, N. C	4.29	2.81	3.70	2.78	5.67	1.66	3.08	3.82	5.45	3.81	5.22	5.24	3.67
Cheyenne, Wyo	.40	.44	.55	.10	.08	.63	.30	.47	T.	.20	1.47	.47	.06
Chicago, Ill	2.00	.84	1.33	3.01	1.99	4.84	1.55	4.12	.20	1.11	.97	1.16	.92
Cincinnati, Ohio	3.36	2.21	9.02	2.37	3.85	5.84	4.74	4.30	1.44	3.48	1.72	2.07	4.64
Cleveland, Ohio	2.45	3.13	5.66	1.61	2.52	2.40	2.55	2.60	.63	1.96	1.53	1.52	2.61
Concordia, Kans	.72	.03	.55	.17	.76	1.34	.60	.85	.02	.12	.50	.38	.01
Des Moines, Iowa	1.21	.53	1.10	.85	1.96	2.66	.53	.78	.08	.44	.59	.85	.88
Devils Lake, N. Dak	.60	.31	.38	.61	.11	.71	.55	.24	.22	.74	.13	.58	.42
Dodge City, Kans	.47	.16	.28	.18	1.08	.59	.22	.80	.06	.07	.24	.45	.03
Dubuque, Iowa	1.49	.55	1.11	.78	2.01	2.46	.85	1.83	.17	.63	.18	1.16	.63
Duluth, Minn	.98	.47	.75	1.75	1.84	3.48	.80	.94	.46	1.13	.18	.51	1.69
El Paso, Tex	.51	------	.49	.03	1.01	.66	.32	1.20	.08	1.06	.06	.30	.04
Eureka, Calif	7.63	10.17	8.10	9.75	9.75	13.02	5.53	2.55	7.84	1.87	8.37	2.54	3.88
Evansville, Ind	3.69	3.87	10.27	1.92	6.65	8.78	4.93	5.00	1.14	3.64	1.80	1.47	5.43
Fort Worth, Tex	.93	.17	2.30	.43	1.32	4.01	1.43	1.36	3.03	3.48	2.87	1.63	4.69
Fresno, Calif	1.69	.72	1.22	4.94	2.78	5.17	1.40	.47	.40	.69	2.63	2.46	1.10
Galveston, Tex	3.62	2.44	2.92	.34	4.52	.86	2.21	.54	6.22	7.09	2.77	4.84	6.99
Grand Rapids, Mich	2.78	1.49	1.86	3.24	1.57	3.90	1.40	3.24	.30	1.19	.59	.71	1.25
Greenville, Me	2.85	4.53	2.15	3.39	3.03	2.35	3.95	2.49	2.85	2.84	1.48	2.02	4.58
Havre, Mont	.69	.88	1.46	.64	.67	1.75	.97	1.19	.40	1.14	.12	.42	1.12
Indianapolis, Ind	2.81	2.10	7.63	2.76	3.31	6.55	3.40	2.89	.91	2.01	2.86	1.26	2.73
Iola, Kans	.98	.37	.85	.39	2.14	5.13	.48	.90	.02	.76	1.77	.96	1.16
Jacksonville, Fla	3.12	4.76	1.53	3.31	4.10	.90	.41	2.78	1.73	1.21	2.04	3.21	1.37
Kalispell, Mont	1.59	1.69	2.69	1.31	1.19	1.95	1.05	1.82	.72	.85	1.29	.74	1.07
Little Rock, Ark	4.79	3.54	11.29	1.35	4.62	8.45	2.53	5.51	2.72	9.19	1.52	1.90	7.42
Los Angeles, Calif	2.84	.07	2.01	10.35	5.42	13.30	2.68	.50	.96	.50	3.22	4.04	1.76
Lynchburg, Va	3.72	1.85	1.91	3.00	3.86	.99	2.69	4.42	4.11	1.64	2.60	3.90	2.25
Madison, Wis	1.56	.58	1.64	.70	2.05	3.07	1.04	2.09	.26	.84	.22	.63	1.25
Marquette, Mich	2.04	2.27	2.03	2.63	2.41	3.05	1.20	4.77	2.21	1.84	2.28	1.94	2.84
Memphis, Tenn	5.21	3.41	7.71	1.60	5.69	7.16	5.37	5.02	3.77	6.01	1.84	2.26	5.05
Miami, Fla	3.45	4.26	4.42	1.35	3.64	1.44	.11	.85	1.07	.41	.73	.55	.21
Mobile, Ala	4.85	4.01	4.29	1.98	7.54	3.06	3.04	3.87	6.57	11.70	1.89	6.79	2.65
Modena, Utah	.73	T.	.32	1.42	1.12	3.47	1.06	.11	.32	.44	1.27	1.72	1.40
Nashville, Tenn	4.85	2.92	12.30	1.56	5.89	7.62	7.27	7.43	4.71	7.35	3.11	2.90	5.89
New Orleans, La	4.63	5.10	5.71	1.02	8.42	4.46	4.12	4.43	8.03	5.66	1.16	5.22	5.26
Norfolk, Va	3.37	3.39	3.39	2.82	5.66	2.07	2.28	2.77	3.10	2.14	1.55	3.49	1.74
North Platte, Nebr	.47	.74	.16	.18	.51	.85	.74	.54	.03	.07	.68	.66	.11
Oklahoma City, Okla	1.34	.10	.56	.05	.78	4.28	.37	.95	.29	2.09	2.29	1.15	2.74
Omaha, Nebr	.65	.26	.69	.56	1.87	2.20	.58	.65	.10	.28	.48	.94	.87
Parkersburg, W. Va	3.19	2.05	8.22	1.55	3.68	5.34	5.71	2.24	2.48	3.83	3.17	1.91	4.14
Peoria, Ill	2.20	.35	2.18	1.93	1.89	5.95	1.86	1.58	.07	.93	1.39	1.69	1.10
Phoenix, Ariz	1.17	------	.38	.30	1.79	2.34	2.20	1.14	.22	1.42	.13	1.29	.28
Pierre, S. Dak	.46	.20	T.	.43	.73	1.06	.84	1.08	.04	.16	.21	.68	.14
Pittsburgh, Pa	2.87	1.90	5.28	2.41	4.66	3.51	4.33	2.82	1.42	2.80	3.35	1.56	3.49
Portland, Oreg	6.50	8.01	6.25	11.53	5.90	5.69	2.54	4.68	9.08	4.84	7.82	3.08	9.57
Pueblo, Colo	.35	.18	.31	.18	.18	.22	.22	.61	.03	.29	.30	.39	T.
Roseburg, Oreg	5.70	5.96	5.76	7.19	2.93	6.15	2.25	3.56	7.33	1.31	4.12	3.68	5.69
Sacramento, Calif	3.69	2.74	2.52	5.97	3.76	9.35	1.30	.97	1.77	.29	4.61	2.16	2.05
St. Louis, Mo	2.27	1.31	4.34	2.21	2.88	8.53	1.72	1.31	.13	1.85	1.10	.74	2.06
St. Paul, Minn	.90	.52	.33	1.05	1.19	2.60	1.79	.51	.44	1.80	.59	.90	1.12
Salt Lake City, Utah	1.35	.74	.81	3.08	.72	1.96	.91	3.89	T.	1.24	1.44	1.42	1.90
San Antonio, Tex	1.08	.28	.90	.09	.53	2.25	.95	.10	6.78	3.36	1.40	1.28	.46
San Diego, Calif	2.00	.66	1.19	3.59	4.91	7.56	4.32	1.64	.61	.43	2.02	3.45	1.34
San Francisco, Calif	4.33	2.47	3.84	9.76	6.74	14.59	1.83	.81	2.57	.26	6.30	2.41	2.84
Santa Fe, N. Mex	.59	.03	.57	.19	1.95	3.02	.55	1.03	.12	.31	1.35	.64	.12
Scranton, Pa	2.80	2.55	2.50	2.11	4.09	2.07	3.15	4.71	2.44	2.79	2.02	1.96	4.24
Seattle, Wash	4.84	4.52	4.89	9.82	6.35	4.82	2.02	2.94	7.95	3.92	5.56	1.89	7.51
Sheridan, Wyo	.90	.35	1.91	.35	2.08	.92	.84	2.21	.33	.81	.54	1.27	.57
Shreveport, La	4.42	1.76	4.21	.73	4.22	6.29	3.29	2.07	3.28	7.06	4.18	5.73	4.32
Springfield, Mo	2.66	1.00	3.40	1.80	2.35	9.31	1.46	1.96	.34	2.36	1.36	1.38	3.43
Thomasville, Ga	4.13	6.93	1.65	4.89	9.70	2.03	6.61	3.73	2.32	3.24	2.39	2.72	3.94
Trenton, N. J	3.17	------	3.12	2.72	5.15	1.26	3.10	3.00	3.28	2.40	2.41	2.41	4.13
Walla Walla, Wash	2.01	2.90	2.52	2.62	.75	2.79	1.05	2.20	2.12	1.55	1.87	1.54	1.85
Washington, D. C	3.37	2.84	2.85	4.60	6.34	1.57	2.57	4.29	3.47	2.30	2.30	5.56	4.24
Winnemucca, Nev	1.04	.36	.59	1.99	.49	2.21	.90	1.04	.10	.39	.46	1.15	.91

[1] Normals are based on records of 20 or more years observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for February.	February total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	0.88	1.94	0.55	0.10	1.60	0.02	0.22	0.26	0.73	0.18	1.19	1.44	1.71
Atlanta, Ga.	4.65	5.53	3.30	3.34	4.50	3.19	5.81	1.82	4.41	5.67	7.37	6.85	7.47
Birmingham, Ala.	4.75	3.84	6.77	2.66	1.95	3.23	5.89	1.94	5.23	3.06	7.82	5.02	5.87
Bismarck, N. Dak.	.50	.08	.63	.36	.63	.39	.44	.29	.63	.20	.15	1.55	.48
Boise, Idaho	1.42	1.84	.30	.86	1.95	3.21	1.21	.88	1.79	.35	1.23	1.00	.21
Boston, Mass.	3.44	2.38	2.99	3.07	3.47	5.18	2.67	2.30	2.66	5.88	2.64	2.64	1.48
Brownsville, Tex.	1.27	.17	1.60	2.28	.64	.06	.20	.81	1.08	.75	.65	3.17	7.64
Buffalo, N. Y.	2.85	2.13	1.94	1.95	2.30	3.64	1.97	2.46	1.61	2.35	2.59	2.61	1.24
Canton, N. Y.	2.57	2.68	1.43	1.16	2.43	4.12	1.63	3.73	1.65	2.21	1.39	2.92	1.67
Charleston, S. C.	3.41	5.17	5.53	6.87	2.53	1.47	2.67	1.31	5.51	2.61	1.26	5.63	1.08
Charlotte, N. C.	4.39	5.00	2.52	4.03	2.89	5.87	3.78	1.92	4.85	3.54	4.61	7.12	4.25
Cheyenne, Wyo.	.56	1.60	.74	.28	.97	.30	.80	.89	.26	.69	.36	.85	.57
Chicago, Ill.	2.16	1.57	1.97	.83	1.92	.87	.67	2.81	2.78	.13	.38	.74	1.66
Cincinnati, Ohio	3.24	2.11	1.86	4.80	.94	1.73	1.50	1.61	1.05	1.30	2.25	1.68	1.81
Cleveland, Ohio	2.61	2.04	1.66	1.84	2.02	1.52	1.22	1.48	1.11	1.12	2.19	1.81	1.39
Concordia, Kans.	.75	2.41	1.30	.82	2.34	.41	.07	.63	2.36	.73	.06	1.12	.38
Des Moines, Iowa	1.08	1.86	.65	1.24	3.20	.61	.52	1.45	3.00	.74	.92	.64	.36
Devils Lake, N. Dak.	.53	.20	.02	.16	.24	.32	.68	.14	.70	.12	.46	.64	.73
Dodge City, Kans.	.71	2.12	.69	.47	1.37	.66	.04	.29	1.50	.09	.69	1.73	.03
Dubuque, Iowa	1.38	1.77	.82	1.16	2.46	.76	.17	1.37	2.87	.47	.29	1.44	.40
Duluth, Minn.	.99	.27	1.09	.64	1.50	.36	.81	.28	.94	.45	.45	4.24	.92
El Paso, Tex.	.46	.15	1.26	.53	.59	.02	T.	.01	.26	.83	.26	T.	1.41
Eureka, Calif.	7.68	5.73	.87	4.20	12.39	5.18	5.10	6.29	8.18	2.11	7.45	9.75	.50
Evansville, Ind.	3.06	2.56	2.15	4.56	1.24	1.64	1.13	.38	1.30	.82	4.69	2.38	4.45
Fort Worth, Tex.	1.27	1.22	.87	1.17	2.18	.01	1.47	.01	2.03	.76	2.62	2.00	2.05
Fresno, Calif.	1.33	T.	1.71	1.31	3.47	1.67	1.07	4.59	1.36	1.54	.61	2.19	.74
Galveston, Tex.	3.10	1.91	3.27	3.31	2.65	.10	2.51	1.11	2.43	1.80	.30	3.03	5.09
Grand Rapids, Mich.	1.91	1.77	1.27	.75	2.59	.74	.67	3.81	2.16	.85	1.13	2.25	.99
Greenville, Me.	2.75	2.98	1.52	1.82	4.36	3.34	1.90	2.47	2.27	4.52	2.22	2.77	2.15
Havre, Mont.	.47	.20	.06	1.04	.44	.47	.90	.40	.97	.42	.15	.70	.32
Indianapolis, Ind.	3.08	2.48	1.85	2.92	1.01	1.16	1.15	2.49	1.21	1.35	1.28	1.46	1.79
Iola, Kans.	1.11	2.01	2.98	3.60	4.26	.87	.07	.91	.95	.15	.09	1.26	.43
Jacksonville, Fla.	3.43	2.65	4.87	4.55	2.44	.19	1.46	.21	3.77	9.16	.62	5.56	1.93
Kalispell, Mont.	1.46	.48	.33	1.68	1.01	1.06	1.82	.90	1.69	.26	.66	.60	.94
Little Rock, Ark.	4.18	2.74	3.78	2.85	2.52	2.05	1.72	.98	3.55	1.16	6.86	3.95	6.42
Los Angeles, Calif.	2.91	------	9.16	7.04	5.09	1.82	4.49	6.14	1.02	2.37	.86	2.47	.75
Lynchburg, Va.	3.49	3.36	1.99	2.77	2.98	2.92	1.66	.53	2.23	4.03	2.66	3.32	2.38
Madison, Wis.	1.47	1.50	1.12	.92	2.30	.39	.64	1.30	2.12	.81	.32	3.90	.93
Marquette, Mich.	1.72	.72	2.26	1.55	2.47	1.34	1.59	2.12	1.50	1.05	1.29	3.00	1.21
Memphis, Tenn.	4.35	3.75	5.23	3.15	3.31	2.27	1.97	2.24	2.66	2.07	6.09	3.30	4.61
Miami, Fla.	2.70	2.06	1.86	1.21	3.01	3.69	.45	2.51	3.20	1.60	1.15	3.14	.24
Mobile, Ala.	5.36	5.50	3.40	7.59	4.91	3.20	4.95	3.33	7.49	4.93	1.41	5.65	4.58
Modena, Utah.	1.20	.07	1.20	.98	2.56	.52	.83	.97	1.19	1.67	.16	.89	.95
Nashville, Tenn.	4.32	4.21	4.71	2.03	1.01	1.19	2.76	1.54	2.19	1.92	4.70	3.89	4.38
New Orleans, La.	4.47	3.73	2.19	6.43	4.23	2.76	3.19	2.21	6.52	3.60	1.94	3.25	2.33
Norfolk, Va.	3.75	2.66	1.97	3.67	1.71	4.03	1.88	.26	2.15	6.33	3.62	4.85	2.61
North Platte, Nebr.	.40	.81	.94	.96	1.11	.81	.35	.28	1.50	.72	.36	.05	.14
Oklahoma City, Okla.	.98	1.37	2.72	.86	3.10	.39	.84	.07	1.52	.19	1.28	.64	.20
Omaha, Nebr.	.76	1.28	.64	.87	2.62	.84	.20	1.05	2.07	.83	.69	.91	.06
Parkersburg, W. Va.	3.24	1.57	1.76	3.74	1.90	2.75	2.44	2.81	1.76	2.16	2.18	1.57	2.32
Peoria, Ill.	2.69	1.21	3.60	1.36	2.71	.29	.27	1.64	2.32	.27	.29	1.99	.83
Phoenix, Ariz.	.69	0	1.93	.71	1.21	.13	.95	.45	.75	1.46	.11	.42	.46
Pierre, S. Dak.	.44	.06	.25	1.35	1.91	.31	.37	.63	1.29	.26	.65	.49	.04
Pittsburgh, Pa.	2.66	1.81	2.11	3.13	2.24	2.61	.98	1.87	1.58	1.62	1.80	1.57	2.18
Portland, Oreg.	5.73	4.85	1.13	4.19	3.07	7.87	3.32	6.77	3.36	.16	7.21	3.29	1.81
Pueblo, Colo.	.47	.40	1.09	.36	.57	T.	.49	.79	.86	.39	.67	.37	.76
Roseburg, Oreg.	4.56	3.60	.57	2.21	3.33	5.61	4.90	4.96	8.05	.17	4.31	3.70	1.41
Sacramento, Calif.	3.14	.23	.16	2.96	4.26	2.45	4.97	3.36	6.29	.81	.54	4.18	.39
St. Louis, Mo.	2.75	2.80	1.20	4.63	2.30	1.78	.35	2.09	1.54	.74	1.09	1.52	1.50
St. Paul, Minn.	.84	.07	.71	.49	2.21	.39	.44	.69	2.52	.57	.46	3.69	.58
Salt Lake City, Utah	1.38	1.33	1.67	.98	2.00	1.18	1.22	1.41	2.11	1.14	1.08	2.36	.35
San Antonio, Tex.	1.78	5.12	1.91	1.38	1.81	.61	.49	1.10	1.56	.27	.28	1.26	5.47
San Diego, Calif.	1.96	------	2.40	1.90	2.62	.66	1.84	1.52	1.46	2.87	.35	1.86	1.58
San Francisco, Calif.	2.70	.41	.43	5.04	7.26	3.77	3.81	5.79	9.31	1.23	1.38	5.15	.77
Santa Fe, N. Mex.	.84	.60	1.15	.63	.77	.20	.28	1.14	.69	1.12	.38	.51	.25
Scranton, Pa.	2.72	1.57	1.69	5.23	2.70	4.48	1.84	1.26	2.13	4.74	2.84	1.35	1.98
Seattle, Wash.	3.77	3.11	1.34	1.93	2.76	6.35	1.43	4.81	3.27	.34	4.82	1.74	2.72
Sheridan, Wyo.	.74	1.92	.35	1.25	.17	1.17	.37	.19	.20	.94	.11	.22	.09
Shreveport, La.	3.61	2.38	2.95	4.85	4.15	.61	2.10	.16	3.46	1.48	1.91	5.40	6.21
Springfield, Mo.	2.27	2.84	2.40	2.26	2.66	.37	.47	.64	2.44	.42	.85	2.02	1.27
Thomasville, Ga.	4.48	7.25	6.51	12.12	3.44	1.88	3.74	2.27	5.90	5.77	1.27	4.64	3.35
Trenton, N. J.	3.19	------	2.17	3.00	4.40	2.16	1.47	1.84	3.25	4.27	3.44	2.28	3.68
Walla Walla, Wash.	1.58	2.18	1.46	1.59	1.79	3.84	1.12	1.30	1.98	.10	2.21	.97	1.93
Washington, D. C.	3.42	2.70	1.87	3.05	3.60	2.84	1.97	.83	2.01	3.47	2.29	2.86	2.19
Winnemucca, Nev.	.93	.41	.15	.51	1.13	1.44	.20	.79	1.52	.24	.37	2.10	.13

[1] Normals are based on records of 20 or more years of observations.
T=Trace. indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Mar	March total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex	0.65	0.82	0.59	0.15	1.00	0.57	0.25	1.06	1.73	0.51	0.68	4.06	2.97
Atlanta, Ga	5.78	10.44	9.14	3.17	2.01	1.84	9.15	.89	3.56	10.95	1.64	10.30	5.14
Birmingham, Ala	5.76	9.84	5.96	5.29	3.68	3.01	11.85	.32	5.91	10.34	4.88	7.14	5.15
Bismarck, N. Dak	1.04	.76	.49	1.23	.35	2.27	.60	.85	1.17	1.21	1.00	.70	.26
Boise, Idaho	1.44	1.26	1.75	.39	.78	.71	1.75	1.78	1.82	1.89	.84	2.86	.24
Boston, Mass	4.08	4.18	4.81	4.16	T.	3.26	3.73	3.19	4.11	3.72	1.92	4.26	2.49
Brownsville, Tex	1.23	.20	1.86	1.86	1.99	.07	1.51	.94	.44	.76	.88	1.29	1.32
Buffalo, N. Y	2.62	2.51	3.66	4.18	1.38	3.52	2.69	2.45	2.47	1.57	3.40	3.61	1.70
Canton, N. Y	2.84	2.08	5.24	2.03	.51	1.60	1.98	1.37	3.97	2.26	3.32	3.21	2.67
Charleston, S. C	3.72	4.14	3.80	2.34	2.83	1.96	3.05	1.65	4.05	4.65	2.66	3.15	2.38
Charlotte, N. C	4.57	7.86	5.80	1.56	3.44	1.38	6.42	2.33	2.79	7.11	1.84	6.32	5.84
Cheyenne, Wyo	.95	1.33	.33	.72	1.61	.20	.69	.19	1.52	.66	.39	.83	1.49
Chicago, Ill	2.55	2.20	3.44	1.87	.60	2.48	2.11	2.05	4.32	4.57	4.00	5.58	3.05
Cincinnati, Ohio	3.64	4.78	9.00	2.40	1.64	3.34	4.06	2.28	5.27	4.20	6.60	6.56	3.50
Cleveland, Ohio	2.79	2.14	8.31	2.10	.92	2.29	2.14	2.38	2.67	1.49	4.39	4.02	1.89
Concordia, Kans	1.48	1.32	.41	1.05	2.53	.37	1.49	.77	.90	.47	.47	2.69	1.32
Des Moines, Iowa	1.65	2.87	3.08	1.18	1.16	.60	2.30	.29	3.67	3.92	1.07	2.23	4.24
Devils Lake, N. Dak	1.01	.09	.54	.76	.09	1.09	.30	.22	1.49	.35	.71	.62	.71
Dodge City, Kans	.88	.97	.23	.09	.64	.68	.36	2.59	.94	.43	.01	3.76	.76
Dubuque, Iowa	2.21	2.07	2.81	1.74	1.14	3.91	1.56	2.12	2.24	3.04	2.05	1.55	2.98
Duluth, Minn	1.55	.43	3.25	1.56	.36	2.48	4.97	.50	1.16	2.28	1.76	2.60	1.23
El Paso, Tex	.38	.27	.29	.10	1.34	.34	.07	.08	.62	.22	.04	.16	.33
Eureka, Calif	6.97	4.73	3.61	3.13	1.65	4.83	5.01	5.84	6.25	5.79	3.04	5.43	.89
Evansville, Ind	4.60	5.58	8.71	3.12	1.08	2.56	3.03	.95	5.06	6.10	4.52	8.20	2.48
Fort Worth, Tex	1.76	3.34	1.04	2.89	1.40	3.68	2.42	.93	3.34	4.42	2.67	1.87	1.52
Fresno, Calif	1.76	3.02	.03	.25	.52	1.81	.56	4.19	1.07	3.98	1.05	1.53	.06
Galveston, Tex	2.90	2.00	1.43	4.63	1.43	.25	.91	1.65	2.20	1.77	3.59	2.69	4.53
Grand Rapids, Mich	2.52	1.52	3.57	1.59	1.13	3.16	1.87	2.37	4.93	3.42	4.77	3.18	2.36
Greenville, Miss	3.76	3.04	5.29	4.15	.24	2.35	3.90	2.19	4.03	2.85	1.95	2.96	3.02
Havre, Mont	.48	.30	.65	.17	.10	.59	.18	.51	.74	.46	1.89	.43	.11
Indianapolis, Ind	4.01	5.35	7.76	1.82	1.47	2.44	4.75	1.58	6.72	.66	7.25	7.16	4.41
Iola, Kans	2.35	5.18	2.13	2.12	2.25	2.16	3.56	1.96	1.06	5.36	3.60	7.71	3.69
Jacksonville, Fla	3.52	3.27	5.87	1.84	2.47	.59	1.81	2.31	3.24	.82	.57	3.69	1.15
Kalispell, Mont	1.08	.37	1.73	1.17	.59	2.43	1.09	.76	.45	.92	1.55	.77	.42
Little Rock, Ark	4.94	9.05	4.47	4.63	2.94	1.59	6.43	1.49	6.44	4.89	7.03	8.30	5.00
Los Angeles, Calif	3.00	6.99	.33	.58	.60	.90	.18	6.21	2.18	4.25	2.75	1.64	.32
Lynchburg, Va	3.81	8.54	5.50	2.24	1.14	1.32	4.97	2.41	3.02	2.82	1.75	7.50	5.91
Madison, Wis	2.21	1.92	2.41	1.15	.87	2.93	2.00	2.17	2.17	4.07	1.81	2.01	4.14
Marquette, Mich	2.08	.56	4.46	2.03	1.60	3.36	2.97	1.13	.92	3.34	2.95	2.72	3.24
Memphis, Tenn	5.77	9.53	4.78	3.91	3.03	2.22	7.51	.70	12.41	4.72	7.41	8.24	7.03
Miami, Fla	2.72	3.76	4.39	.99	1.57	.28	3.03	1.48	9.74	.06	5.15	.13	.58
Mobile, Ala	7.17	6.62	10.58	2.00	3.46	3.09	2.28	.79	5.09	2.21	6.71	11.46	6.09
Modena, Utah	1.30	2.70	.15	.15	.40	1.50	.68	1.60	.85	1.84	1.09	.45	.90
Nashville, Tenn	5.44	6.00	4.54	4.33	2.14	3.60	8.06	1.86	8.67	3.25	5.95	9.32	7.69
New Orleans, La	5.30	10.81	4.84	4.17	2.31	.64	3.03	1.69	3.22	3.28	5.59	8.45	4.56
Norfolk, Va	4.28	5.18	1.99	3.77	1.14	1.68	4.60	3.08	3.36	2.39	1.50	4.95	5.12
North Platte, Nebr	.87	3.08	1.68	.41	2.23	.20	1.48	.32	.44	.38	.42	.47	.38
Oklahoma City, Okla	2.38	4.11	3.11	1.68	2.08	1.66	1.20	1.55	1.88	4.20	1.93	4.37	2.58
Omaha, Nebr	1.39	2.50	3.08	1.52	1.67	.35	1.35	.11	1.59	.47	1.08	1.47	3.95
Parkersburg, W. Va	3.82	5.09	4.13	2.19	1.42	4.48	4.46	3.54	2.87	2.92	4.49	6.08	3.35
Peoria, Ill	2.96	2.08	3.46	1.60	.67	2.33	2.26	.91	4.52	5.84	4.89	5.09	4.08
Phoenix, Ariz	.49	1.96	.07	.92	.33	.37	.15	.93	.97	1.35	.03	.99	1.08
Pierre, S. Dak	1.33	.45	.84	.79	.58	.38	.53	1.47	1.30	1.78	.49	.56	.68
Pittsburgh, Pa	3.01	4.83	4.37	2.12	1.26	3.63	3.36	1.25	1.89	1.77	3.86	5.84	2.15
Portland, Oreg	5.18	1.41	4.04	2.28	2.15	10.57	5.33	3.47	4.64	3.94	4.28	6.57	1.83
Pueblo, Colo	.86	.53	.21	.32	.48	.65	.44	.35	1.43	.15	.20	.29	.67
Roseburg, Oreg	3.98	4.05	2.23	1.76	1.76	4.95	3.74	2.57	4.50	2.97	1.71	4.09	1.33
Sacramento, Calif	3.01	1.97	1.34	.59	1.20	1.06	.70	4.00	1.50	3.27	1.45	1.29	.42
St. Louis, Mo	3.43	5.85	7.97	1.25	.44	1.83	1.80	.67	1.72	3.97	6.14	4.84	4.26
St. Paul, Minn	1.60	.32	1.74	.93	.99	1.26	2.09	.88	.81	2.91	2.51	1.41	1.33
Salt Lake City, Utah	2.00	3.48	2.50	1.24	1.48	3.03	2.61	1.81	.54	3.81	1.03	2.44	1.67
San Antonio, Tex	1.68	1.86	1.36	.83	1.20	.79	.16	1.45	1.30	.83	5.91	3.20	3.07
San Diego, Calif	1.70	5.72	.42	.36	.33	.96	.26	4.57	1.33	2.46	1.13	1.34	.54
San Francisco, Calif	3.14	4.10	1.47	1.09	3.02	1.33	1.42	2.73	2.74	3.25	2.28	2.38	.93
Santa Fe, N. Mex	.78	1.85	.87	.82	.70	1.38	.27	1.46	1.70	.57	.75	.44	1.28
Scranton, Pa	3.12	7.02	5.00	5.05	1.21	5.74	2.99	2.23	3.02	3.50	3.17	4.02	1.65
Seattle, Wash	2.88	1.79	1.55	1.40	1.73	5.45	2.96	3.92	1.84	2.82	3.06	4.45	1.27
Sheridan, Wyo	1.22	.72	.78	1.14	1.40	.92	1.31	3.32	.43	.83	.65	.34	1.99
Shreveport, La	4.82	9.98	4.81	6.55	1.92	1.88	2.12	1.14	3.14	5.06	3.87	9.31	3.63
Springfield, Mo	4.07	4.47	5.09	3.37	2.28	2.42	2.31	1.33	2.23	4.99	7.35	6.45	2.49
Thomasville, Ga	5.09	5.64	5.88	1.22	3.17	1.62	1.96	1.41	7.36	3.21	3.39	4.12	3.32
Trenton, N. J	4.04	------	4.77	3.28	1.37	2.61	3.45	2.02	4.64	3.81	2.42	3.89	3.70
Walla Walla, Wash	1.89	1.14	2.07	.59	1.96	3.46	.52	1.26	1.91	2.14	2.24	.96	.47
Washington, D. C	3.85	6.14	4.67	2.27	1.07	2.80	5.12	5.04	4.02	2.39	2.76	4.74	4.47
Winnemucca, Nev	.95	.72	.28	.08	.49	.62	.58	1.95	.57	1.73	.66	.79	.95

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for April.	April total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	1.72	.72	1.76	0.95	5.05	1.71	0.71	0.48	2.56	0.64	0.39	3.25	3.22
Atlanta, Ga.	3.63	6.65	.84	3.16	.35	1.51	3.17	6.98	4.18	5.32	3.31	4.34	3.82
Birmingham, Ala.	3.67	8.92	2.28	4.46	1.05	2.14	4.52	7.17	1.55	10.71	4.81	6.64	7.58
Bismarck, N. Dak.	1.88	2.30	.55	.92	1.04	.65	1.87	2.13	1.71	.45	2.40	.68	2.01
Boise, Idaho	1.18	3.34	.95	1.63	1.05	.80	3.13	.65	1.18	1.32	.93	1.51	1.09
Boston, Mass.	3.55	3.07	4.77	5.87	1.86	4.51	2.72	3.08	2.33	5.68	4.62	2.48	5.26
Brownsville, Tex.	1.33	1.76	.38	1.16	1.01	1.28	.43	2.59	2.39	------	.52	1.52	.85
Buffalo, N. Y.	2.45	3.39	3.78	3.24	.59	2.98	2.45	2.41	3.40	2.33	3.62	1.56	1.17
Canton, N. Y.	2.26	2.46	3.35	3.56	1.30	1.83	1.92	1.84	3.39	3.45	1.53	3.46	2.41
Charleston, S. C.	2.99	4.92	1.40	2.77	1.13	2.35	.97	2.49	.73	7.40	2.06	1.50	1.06
Charlotte, N. C.	3.44	3.92	2.72	2.99	.63	2.15	2.54	5.47	3.90	5.40	1.99	6.59	4.23
Cheyenne, Wyo.	1.85	1.62	1.35	2.58	3.29	.48	1.75	3.92	1.23	3.97	2.00	3.23	3.26
Chicago, Ill.	2.88	2.55	1.91	1.07	1.02	1.60	2.58	3.41	3.16	4.71	4.47	3.70	1.38
Cincinnati, Ohio.	2.95	5.62	3.84	3.07	.84	2.51	4.07	3.38	3.29	5.78	3.19	4.32	2.96
Cleveland, Ohio.	2.31	3.68	2.47	4.28	.65	2.43	3.24	2.55	2.96	5.01	2.58	2.10	2.21
Concordia, Kans.	2.42	1.35	2.46	1.00	2.47	1.82	2.60	3.51	4.20	2.82	2.79	2.33	3.20
Des Moines, Iowa.	2.98	2.75	3.41	1.52	1.36	2.44	5.52	1.81	5.30	4.09	3.72	2.84	1.76
Devils Lake, N. Dak.	2.03	2.41	.83	1.21	1.10	1.09	1.40	2.86	1.14	.54	2.17	.48	1.44
Dodge City, Kans.	1.87	1.73	2.12	1.28	2.28	2.84	1.45	1.38	1.65	1.75	2.73	4.24	2.13
Dubuque, Iowa.	2.92	2.49	1.70	1.53	.38	2.69	2.05	2.16	4.47	3.91	4.70	2.89	1.48
Duluth, Minn.	2.14	2.58	1.75	2.90	1.23	3.27	1.39	2.02	1.82	1.41	2.10	2.83	1.11
El Paso, Tex.	.23	.96	.14	.47	.20	.20	T.	------	.65	.03	.01	.28	.04
Eureka, Calif.	3.93	5.92	3.41	3.27	1.38	1.98	3.78	1.07	4.03	3.12	1.67	2.39	2.95
Evansville, Ind.	3.46	7.02	3.19	2.83	.40	1.99	5.12	5.26	3.71	2.93	3.42	4.07	4.54
Fort Worth, Tex.	2.65	3.20	2.47	5.99	4.98	6.99	4.11	6.21	2.06	.51	1.99	17.64	5.30
Fresno, Calif.	.71	1.86	1.01	.59	.81	.02	.21	T.	.06	.49	.15	.10	3.93
Galveston, Tex.	3.13	4.29	2.46	8.54	3.37	1.37	1.45	6.63	2.17	.70	2.47	1.66	4.45
Grand Rapids, Mich.	2.45	2.46	2.45	1.97	.85	2.52	4.03	2.22	2.60	2.95	4.39	4.50	2.19
Greenville, Me.	2.78	2.87	2.54	4.51	3.49	2.45	3.25	1.66	2.96	5.49	2.61	2.99	5.97
Havre, Mont.	1.01	1.36	1.35	.04	.24	.69	1.35	.35	.29	2.65	.92	1.11	1.24
Indianapolis, Ind.	3.47	4.62	3.01	3.21	.99	1.81	4.25	5.36	3.35	7.26	3.73	8.55	1.94
Iola, Kans.	2.79	5.70	1.30	1.68	5.56	3.83	4.61	4.60	4.37	2.01	2.86	9.26	2.66
Jacksonville, Fla.	2.72	4.96	1.32	.30	.49	.46	.82	5.96	1.26	3.42	1.43	1.39	.98
Kalispell, Mont.	1.06	.61	.86	1.21	1.16	.73	1.26	.63	.24	1.48	1.17	1.86	.41
Little Rock, Ark.	4.51	10.76	11.46	5.19	2.92	2.61	3.91	8.42	4.09	6.59	7.40	3.55	7.69
Los Angeles, Calif.	1.13	1.66	.35	.47	.81	T.	.46	.15	.17	1.00	.28	.10	1.97
Lynchburg, Va.	3.17	1.89	3.60	1.70	.87	1.94	3.10	4.97	2.18	3.53	2.76	1.53	2.71
Madison, Wis.	2.38	1.48	1.54	1.84	.92	3.51	3.29	2.63	2.90	3.43	5.16	3.39	2.59
Marquette, Mich.	1.99	3.01	3.00	6.80	.99	3.51	1.75	1.37	3.24	2.28	4.10	3.79	1.43
Memphis, Tenn.	4.83	8.01	5.40	2.90	1.67	2.32	4.13	4.57	3.17	7.75	11.64	3.21	6.55
Miami, Fla.	2.59	5.61	3.78	5.24	1.32	.39	3.74	4.49	3.07	3.15	2.63	.54	2.15
Mobile, Ala.	4.35	17.32	4.16	1.77	.14	6.64	2.50	11.11	6.84	5.89	4.43	.92	4.39
Modena, Utah.	.79	1.99	.37	2.17	2.38	.23	1.17	.35	.27	.44	1.33	1.02	1.22
Nashville, Tenn.	4.36	11.73	1.65	3.83	.72	2.49	4.05	3.39	2.68	8.58	3.50	4.53	4.26
New Orleans, La.	4.91	8.62	4.90	5.34	.04	2.55	4.11	10.73	7.88	7.84	4.87	3.81	4.48
Norfolk, Va.	3.79	2.78	.79	1.88	.91	1.95	2.61	4.81	1.61	4.25	3.02	1.88	3.89
North Platte, Nebr.	2.15	2.93	2.07	1.48	7.10	.72	1.95	2.51	2.21	3.42	1.30	2.01	2.02
Oklahoma City, Okla.	2.80	2.81	1.88	2.41	7.50	3.15	2.11	2.45	5.04	2.11	2.39	7.67	4.27
Omaha, Nebr.	3.01	1.31	3.00	3.13	.81	1.72	3.96	1.57	4.66	3.39	2.13	2.12	1.57
Parkersburg, W.Va.	2.91	4.02	1.81	4.38	2.02	2.84	4.29	4.47	2.09	6.38	2.50	3.81	3.47
Peoria, Ill.	3.28	6.88	3.54	2.10	1.60	1.60	4.54	3.70	2.35	6.12	6.36	3.62	1.95
Phoenix, Ariz.	.43	.52	.51	.10	.88	.15	1.22	.02	.17	------	.02	.24	.05
Pierre, S. Dak.	1.98	.89	1.17	1.78	2.63	1.06	2.39	2.60	2.98	3.37	1.33	.59	1.54
Pittsburgh, Pa.	2.90	4.32	2.53	3.98	1.27	2.54	2.20	2.73	3.07	4.42	1.66	3.56	3.82
Portland, Oreg.	3.05	2.04	2.94	3.08	2.03	2.85	5.36	1.13	3.60	4.75	2.26	3.05	1.90
Pueblo, Colo.	1.43	1.21	.47	3.64	3.07	2.02	1.39	1.31	2.33	.86	.79	1.21	.54
Roseburg, Oreg.	2.48	3.86	2.05	2.50	1.38	2.28	3.37	.71	2.53	2.67	1.38	2.68	2.23
Sacramento, Calif.	2.00	1.69	.53	.70	.50	.06	.62	1.06	.11	1.36	.39	.40	2.87
St. Louis, Mo.	3.52	7.84	3.57	1.92	1.20	1.78	4.64	7.09	1.76	3.43	7.01	7.40	3.20
St. Paul, Minn.	2.33	2.60	1.62	3.73	2.75	3.03	1.65	.94	3.98	2.21	2.46	1.55	2.20
Salt Lake City, Utah	2.26	2.34	1.95	2.84	1.88	.88	1.49	.59	2.50	3.16	2.65	3.05	3.56
San Antonio, Tex.	2.94	1.78	1.32	5.26	11.64	1.85	.28	5.14	3.60	1.09	2.78	5.46	3.24
San Diego, Calif.	.74	2.13	.08	.85	1.15	.01	1.06	T.	.30	.47	.04	.17	1.05
San Francisco, Calif.	1.82	1.38	.60	.99	.62	------	.38	.60	.10	1.36	.54	.47	3.92
Santa Fe, N. Mex.	.86	.43	1.32	.44	4.82	2.50	.15	.72	1.94	.73	.55	1.43	1.60
Scranton, Pa.	2.65	3.78	3.63	3.89	1.65	4.19	1.06	3.98	2.71	2.53	2.88	3.44	2.92
Seattle, Wash.	2.38	1.73	.83	3.31	2.91	1.98	4.48	.96	3.20	3.46	1.76	2.53	1.67
Sheridan, Wyo.	1.67	1.23	.62	2.75	1.79	2.71	1.12	3.74	1.16	3.45	.62	3.47	2.47
Shreveport, La.	4.58	7.49	4.17	3.35	6.42	4.61	3.34	5.28	3.93	4.01	6.24	6.97	4.40
Springfield, Mo.	3.86	5.87	2.05	3.63	2.78	5.15	4.63	4.25	3.55	1.53	4.79	4.94	3.33
Thomasville, Ga.	3.65	10.33	1.38	1.78	.57	2.47	1.55	5.02	2.78	7.22	3.09	.64	3.88
Trenton, N. J.	3.29	3.77	5.27	2.57	3.04	2.67	2.29	3.25	2.91	4.34	1.86	1.69	3.34
Walla Walla, Wash.	1.70	2.07	1.01	1.54	2.35	1.83	3.68	.32	1.62	2.80	.81	1.34	1.24
Washington, D. C.	3.25	2.33	5.86	3.20	.90	2.96	2.16	6.58	3.72	4.69	2.93	1.65	3.94
Winnemucca, Nev.	.88	.70	1.09	1.32	2.33	.19	.68	.52	.49	.80	.06	.55	.79

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal* [1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for May.	May total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	3.67	1.67	1.41	4.43	1.70	0.89	2.49	2.23	2.08	2.57	2.09	1.60	1.70
Atlanta, Ga.	3.09	4.37	3.62	.30	6.11	3.57	4.37	1.73	7.20	4.58	1.75	8.01	9.83
Birmingham, Ala.	3.09	2.68	4.48	1.52	6.14	5.85	3.85	4.07	4.59	7.94	1.24	3.42	7.27
Bismarck, N. Dak.	2.50	3.03	1.99	3.61	4.43	1.95	.26	2.03	4.06	1.27	2.72	2.65	1.01
Boise, Idaho	1.29	1.94	.58	.51	4.26	1.80	2.06	1.05	.08	.56	2.15	1.56	1.76
Boston, Mass.	3.51	4.04	3.22	2.78	1.64	2.83	4.45	1.99	4.25	5.26	3.64	5.34	.83
Brownsville, Tex.	2.22	1.59	1.12	9.03	.50	.37	2.57	4.31	1.97	2.90	2.40	3.90	.48
Buffalo, N. Y.	3.10	3.50	2.48	3.67	1.86	4.13	2.88	2.47	4.32	1.10	2.11	2.01	3.06
Canton, N. Y.	2.85	6.33	2.64	.89	1.57	4.59	2.28	3.91	3.04	1.41	1.08	1.19	3.20
Charleston, S. C.	3.47	3.93	.19	.82	8.92	1.22	3.80	3.65	1.69	1.96	5.92	9.56	6.30
Charlotte, N. C.	3.92	3.14	3.77	.49	5.47	4.41	2.45	2.92	6.38	1.33	4.50	3.72	4.01
Cheyenne, Wyo.	2.43	1.37	2.22	2.10	2.21	1.93	4.65	2.60	.70	2.15	2.40	2.00	2.58
Chicago, Ill.	3.37	3.97	4.38	5.22	7.04	2.93	3.41	4.57	3.84	1.81	.80	3.18	3.46
Cincinnati, Ohio	3.52	4.64	2.30	1.83	5.56	4.49	4.62	4.05	3.56	4.36	2.79	2.09	2.34
Cleveland, Ohio	3.22	2.55	2.84	4.09	3.13	2.04	2.89	4.02	4.15	1.12	1.51	2.42	2.91
Concordia, Kans.	4.70	3.26	5.70	1.70	4.73	3.99	3.11	2.52	5.68	3.50	2.51	3.54	5.48
Des Moines, Iowa	4.56	5.62	5.06	4.83	8.21	3.87	3.94	5.87	2.96	3.14	3.62	6.87	4.78
Devils Lake, N. Dak.	2.20	3.03	.88	1.42	2.13	1.47	T.	3.69	3.47	1.24	1.03	2.71	2.04
Dodge City, Kans.	3.34	1.03	.81	3.47	5.43	.41	1.60	2.90	1.56	3.47	1.36	2.77	7.74
Dubuque, Iowa	4.32	5.98	8.20	4.64	7.61	2.49	2.56	8.64	2.79	2.86	2.26	4.79	1.86
Duluth, Minn.	3.47	5.90	4.82	4.63	3.22	3.57	.86	4.07	1.72	4.67	2.77	3.28	1.81
El Paso, Tex.	.35	T.	T.	1.23	T.	.43	.14	.05	.14	.03	.31	.36	.01
Eureka, Calif.	2.54	1.98	1.67	.70	2.07	1.48	1.03	.29	1.48	.04	2.54	.95	1.26
Evansville, Ind.	3.43	3.84	.59	1.03	7.96	3.72	3.68	5.75	4.74	5.18	1.56	2.69	4.66
Fort Worth, Tex.	4.15	2.71	2.74	10.71	2.49	3.70	3.92	1.99	3.99	8.66	1.04	4.58	.54
Fresno, Calif.	.63	.41	.30	T.	.99	T.	.18	.51	.10	----	.09	.49	.20
Galveston, Tex.	3.23	4.50	3.87	7.54	2.70	8.08	3.47	.22	9.96	3.86	2.04	4.93	3.56
Grand Rapids, Mich.	3.34	4.91	1.76	3.06	2.61	4.13	4.48	4.03	4.78	1.92	1.23	2.64	3.70
Greenville, Me.	3.47	6.32	3.01	1.70	2.99	4.59	3.22	3.37	4.76	1.33	1.97	3.44	2.50
Havre, Mont.	2.09	2.57	1.81	1.13	1.95	3.00	.33	.13	1.25	1.39	2.17	2.47	1.23
Indianapolis, Ind.	3.94	5.67	1.49	1.90	3.94	3.54	3.36	3.85	3.34	5.04	1.55	2.58	5.86
Iola, Kans.	5.05	4.15	3.35	5.84	7.77	2.98	5.12	4.91	4.15	4.71	4.85	3.70	5.33
Jacksonville, Fla.	4.25	3.53	1.06	2.00	3.67	3.32	1.83	2.50	7.32	7.41	4.02	7.18	8.73
Kalispell, Mont.	2.03	.76	.92	.60	3.68	1.11	.97	.43	1.72	1.15	.57	.76	2.88
Little Rock, Ark.	5.10	1.81	2.34	2.25	4.38	1.49	3.28	.64	4.67	8.18	.75	4.74	10.50
Los Angeles, Calif.	.48	.12	.05	.43	.88	.03	.21	.40	.19	.10	3.57	.65	----
Lynchburg, Va.	3.99	4.95	4.76	.59	1.99	5.13	2.21	2.15	3.64	.79	6.15	4.37	1.66
Madison, Wis.	3.62	6.57	6.63	5.97	5.98	2.38	3.33	4.87	3.55	2.51	5.13	4.16	1.90
Marquette, Mich.	3.32	3.73	2.04	.90	3.12	1.78	1.45	6.58	2.77	.74	1.67	3.27	1.27
Memphis, Tenn.	4.34	2.32	2.97	4.64	5.70	4.09	2.91	.99	5.51	8.12	1.27	3.48	6.16
Miami, Fla.	6.37	11.17	8.42	1.82	3.32	5.99	4.62	2.80	13.31	10.33	5.60	9.06	11.48
Mobile, Ala.	4.00	7.70	1.59	.22	4.67	6.08	2.05	2.90	6.04	3.70	3.07	8.31	7.91
Modena, Utah	.87	.33	.84	.85	.97	.62	2.23	.69	.38	1.67	1.25	1.61	.32
Nashville, Tenn.	3.50	4.02	2.06	3.01	4.94	5.37	4.75	3.61	8.67	3.18	1.15	4.39	4.31
New Orleans, La.	3.88	16.80	7.94	.19	3.64	7.97	1.63	2.79	7.02	4.08	1.61	5.75	9.10
Norfolk, Va.	4.07	1.75	4.31	2.53	4.82	5.48	1.98	2.97	3.63	1.99	4.72	3.42	1.90
North Platte, Nebr.	3.06	1.93	3.50	2.14	5.55	1.95	4.44	2.30	2.33	3.31	1.89	2.53	4.08
Oklahoma City, Okla.	5.75	2.91	3.88	5.07	3.60	.59	2.14	8.31	5.66	8.66	1.85	6.83	7.01
Omaha, Nebr.	4.50	1.30	5.27	2.16	6.05	4.57	3.85	4.08	1.70	2.55	3.18	2.37	2.50
Parkersburg, W. Va.	3.46	3.78	4.80	1.51	3.47	4.65	5.06	3.51	5.00	1.64	4.19	4.09	2.31
Peoria, Ill.	4.26	4.39	1.85	2.28	11.49	7.51	2.40	3.02	3.79	3.03	2.13	4.60	5.15
Phoenix, Ariz.	.03	.58	----	T.	.17	T.	.45	T.	.06	.42	.17	.26	.08
Pierre, S. Dak.	2.13	1.67	3.75	3.54	2.56	5.81	2.72	3.02	2.78	5.11	4.79	3.58	1.43
Pittsburgh, Pa.	3.30	1.56	3.11	2.64	3.84	2.33	2.65	3.89	4.89	1.03	2.49	2.59	3.34
Portland, Oreg.	2.36	1.89	1.63	1.22	2.59	2.05	2.31	1.38	1.95	.91	.99	1.60	1.48
Pueblo, Colo.	1.68	1.55	1.43	3.51	1.75	.63	3.01	.06	.38	1.26	.98	1.67	.68
Roseburg, Oreg.	2.05	3.11	1.50	1.06	3.36	2.05	2.75	1.34	1.23	.24	1.75	1.03	1.56
Sacramento, Calif.	.98	.94	.51	.50	2.75	.10	.12	.01	.01	----	.75	.43	.06
St. Louis, Mo.	4.24	4.29	1.53	.69	7.67	3.00	3.78	3.28	7.86	5.00	4.29	1.26	5.85
St. Paul, Minn.	3.62	4.06	2.95	1.48	3.88	5.89	3.92	4.52	2.13	1.97	3.38	2.48	2.28
Salt Lake City, Utah	1.95	1.75	.57	.89	1.97	.61	3.48	1.32	1.24	1.83	1.95	2.16	1.91
San Antonio, Tex.	2.96	1.49	2.88	5.59	1.89	3.85	3.30	2.80	3.06	2.42	2.01	3.46	1.33
San Diego, Calif.	.41	.17	.07	.08	.28	.01	.31	T.	.34	.44	2.54	.36	----
San Francisco, Calif.	.81	1.47	.63	.37	3.17	.07	.06	T.	T.	T.	.52	.55	.06
Santa Fe, N. Mex.	1.11	.99	.17	2.28	.83	.07	.84	1.02	3.37	2.28	2.35	.29	1.02
Scranton, Pa.	3.44	1.44	2.27	3.29	3.30	3.04	3.25	3.58	3.33	2.48	2.28	2.20	3.26
Seattle, Wash.	1.97	1.64	1.37	.74	1.72	1.56	.83	1.19	2.08	.96	1.93	1.08	1.45
Sheridan, Wyo.	2.68	2.27	1.52	3.10	3.98	3.04	3.66	2.83	.81	3.12	2.98	3.04	3.27
Shreveport, La.	4.16	5.74	3.11	4.49	1.81	5.01	1.66	1.49	5.78	5.18	3.66	4.04	4.68
Springfield, Mo.	5.55	2.85	2.38	3.55	6.52	2.78	3.90	4.19	4.52	6.53	4.06	3.94	4.55
Thomasville, Ga.	4.01	2.12	2.87	1.45	8.75	1.54	3.23	1.38	8.02	3.36	4.03	8.21	6.00
Trenton, N. J.	3.52	4.47	3.00	1.96	4.33	2.45	2.90	4.37	4.18	2.66	4.04	3.03	.89
Walla Walla, Wash.	1.83	1.95	1.24	.98	2.48	1.29	2.48	.68	.58	.57	.19	.46	1.36
Washington, D. C.	3.83	4.84	4.56	1.72	2.18	2.89	1.84	2.35	5.27	1.42	5.82	4.27	1.50
Winnemucca, Nev.	1.03	.52	.45	.48	1.08	.49	2.49	.77	1.25	.15	1.18	.47	.70

[1] Normals are based on records of 20 or more years of observations.
T—Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal* [1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for June.	June total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	2.99	1.90	2.32	0.84	1.04	2.18	0.83	1.44	2.94	2.56	7.75	3.77	9.76
Atlanta, Ga.	3.88	11.21	3.10	2.14	3.82	3.28	1.75	3.31	2.08	3.47	1.56	4.41	3.23
Birmingham, Ala.	3.88	6.18	2.75	4.49	4.90	2.02	3.44	7.64	3.30	3.03	1.45	3.82	2.10
Bismarck, N. Dak.	3.54	3.55	2.06	9.90	5.70	1.50	2.15	.59	.63	2.05	.92	3.24	1.99
Boise, Idaho	.88	.86	1.64	.82	.48	1.68	.34	.58	T.	1.18	.09	.57	2.05
Boston, Mass.	3.03	.27	.64	1.40	1.39	5.04	4.05	1.94	1.08	5.78	3.58	8.05	2.03
Brownsville, Tex.	2.37	12.78	4.96	.63	T.	.17	.71	1.39	5.08	6.70	4.59	5.55	1.96
Buffalo, N. Y.	3.14	.83	1.69	1.72	1.72	4.04	5.28	2.81	.54	3.11	1.52	3.38	3.64
Canton, N. Y.	3.43	1.57	1.15	2.29	3.67	2.84	3.58	3.57	4.83	2.69	1.66	7.56	4.49
Charleston, S. C.	5.39	6.89	2.88	4.33	4.52	9.75	1.92	.27	6.33	2.45	.61	3.54	3.88
Charlotte, N. C.	4.46	5.39	4.21	2.12	5.45	5.55	4.70	2.43	2.43	3.56	1.33	2.74	2.21
Cheyenne, Wyo.	1.57	1.17	1.18	.25	1.34	.37	.34	1.24	.72	.70	2.92	.90	2.32
Chicago, Ill.	3.66	1.78	1.08	3.53	3.60	7.25	2.87	1.69	3.16	3.94	1.57	.12	1.70
Cincinnati, Ohio.	3.98	2.16	2.29	2.20	4.47	4.32	2.96	5.97	2.44	2.68	2.35	1.77	3.18
Cleveland, Ohio.	3.68	1.96	1.33	2.80	2.03	1.98	3.59	1.83	1.24	5.28	2.38	2.66	1.49
Concordia, Kans.	4.97	2.96	2.76	2.73	9.33	4.66	3.17	1.85	6.14	.84	3.35	2.10	7.32
Des Moines, Iowa.	4.96	2.60	3.52	3.89	3.60	2.24	8.16	5.03	7.36	1.25	4.66	1.63	4.95
Devils Lake, N. Dak.	3.53	2.95	1.28	5.84	4.53	4.14	1.09	2.00	3.58	4.69	4.70	2.52	1.46
Dodge City, Kans.	3.32	8.55	2.02	3.82	2.96	5.16	.91	.26	1.72	2.08	4.48	1.37	2.96
Dubuque, Iowa.	4.55	1.93	1.92	5.81	3.06	4.61	5.12	6.15	6.24	5.24	3.54	1.20	3.66
Duluth, Minn.	4.53	1.32	2.03	6.28	4.96	5.81	1.93	.84	3.77	5.66	4.38	3.97	3.89
El Paso, Tex.	.55	1.27	.91	1.47	T.	----	.36	.83	.27	.99	.79	.05	.09
Eureka, Calif.	1.06	1.29	1.60	1.73	.05	1.00	.00	.02	.14	1.92	1.80	.14	1.07
Evansville, Ind.	4.17	3.36	1.55	3.99	3.69	4.58	4.20	2.05	6.75	3.77	2.44	2.65	5.09
Fort Worth, Tex.	2.97	4.26	3.03	2.97	6.88	3.30	1.97	5.16	3.72	2.33	2.63	1.76	6.74
Fresno, Calif.	.10	T.	.10	.23	----	----	----	.01	----	.03	.01	.12	T.
Galveston, Tex.	4.75	4.03	2.51	.12	.08	3.15	.65	2.79	15.49	6.08	4.97	8.96	3.24
Grand Rapids, Mich.	2.52	1.02	1.50	6.13	1.86	6.56	3.44	1.17	1.84	4.09	3.62	3.16	1.67
Greenville, Me.	3.69	1.91	1.82	3.34	2.00	3.99	8.69	3.38	2.25	3.12	2.88	10.00	3.78
Havre, Mont.	2.82	1.52	1.48	4.07	3.35	4.03	1.43	1.45	1.68	3.09	2.00	.82	5.89
Indianapolis, Ind.	4.31	2.02	2.35	3.65	2.91	5.92	5.24	3.11	3.33	3.78	3.22	.99	2.30
Iola, Kans.	4.73	5.98	4.26	3.94	8.56	8.58	.94	2.54	4.21	3.59	8.41	5.63	5.35
Jacksonville, Fla.	5.53	9.62	4.55	1.32	1.55	6.45	3.03	3.32	13.79	8.27	2.71	5.88	4.94
Kalispell, Mont.	1.74	2.59	3.21	2.51	2.09	3.91	2.76	.58	.55	.95	1.22	.54	1.49
Little Rock, Ark.	4.09	3.84	2.05	.01	3.72	3.00	3.82	6.77	2.75	4.27	4.67	2.21	1.80
Los Angeles, Calif.	.07	----	.58	.09	T.	----	----	.03	----	T.	.01	T.	.02
Lynchburg, Va.	3.89	2.35	2.88	2.21	4.16	6.28	5.17	2.91	7.61	5.12	1.85	3.37	2.12
Madison, Wis.	4.10	1.13	3.73	3.46	1.75	4.52	6.47	1.84	3.35	5.62	3.52	3.17	3.05
Marquette, Mich.	3.51	2.45	2.76	4.21	5.13	7.26	2.48	2.51	2.01	2.80	1.52	4.50	3.10
Memphis, Tenn.	4.37	4.39	.97	.12	1.72	3.19	2.51	3.96	5.64	1.83	2.15	3.31	5.04
Miami, Fla.	7.89	14.63	4.07	2.57	12.53	6.36	6.71	6.17	7.26	3.90	1.14	4.50	5.94
Mobile, Ala.	5.95	4.63	3.88	5.78	7.41	5.42	2.23	2.92	2.12	6.64	3.97	2.03	5.97
Modena, Utah.	.40	.05	.44	1.50	.85	.01	T.	.35	.13	.59	.01	.23	.24
Nashville, Tenn.	4.37	5.66	.90	2.95	1.42	4.62	8.03	2.70	3.96	3.81	2.29	5.37	4.42
New Orleans, La.	6.16	4.11	5.58	3.51	5.61	9.70	2.77	2.45	4.50	8.45	9.44	6.45	5.38
Norfolk, Va.	4.33	4.63	5.70	3.20	6.52	1.98	4.05	3.25	3.48	5.05	1.05	9.78	1.43
North Platte, Nebr.	3.25	.57	2.13	4.63	3.39	3.09	2.38	2.18	4.15	2.35	1.39	.87	4.15
Oklahoma City, Okla.	3.07	4.75	3.82	.02	7.23	6.16	1.83	3.09	4.87	2.08	3.80	.30	3.62
Omaha, Nebr.	5.05	3.09	2.28	7.01	2.83	2.58	6.19	1.80	4.44	2.62	3.57	2.68	6.00
Parkersburg, W. Va.	4.65	6.48	2.96	2.16	4.84	3.30	3.17	3.39	2.80	5.20	3.63	5.09	5.42
Peoria, Ill.	4.30	1.86	2.50	2.45	2.08	2.55	7.43	4.69	3.96	2.18	2.17	.99	2.09
Phoenix, Ariz.	.12	.01	----	.05	.48	----	----	.08	T.	T.	.04	T.	----
Pierre, S. Dak.	3.08	.91	.32	5.72	4.12	2.33	.84	1.59	2.55	4.12	.54	4.60	5.67
Pittsburgh, Pa.	3.89	5.67	1.04	3.31	5.36	3.82	3.65	2.40	3.58	6.74	5.33	3.12	4.28
Portland, Oreg.	1.78	3.03	4.24	1.52	1.47	1.83	1.17	.12	.91	2.11	1.36	.14	1.19
Pueblo, Colo.	1.47	2.24	.66	1.90	1.26	1.22	.58	1.02	1.39	.47	7.14	.53	.91
Roseburg, Oreg.	1.07	3.07	3.27	1.76	.71	.91	.26	.33	.68	.96	.76	1.01	1.22
Sacramento, Calif.	.15	.58	.11	.60	----	.01	----	T.	----	.05	.05	T.	.09
St. Louis, Mo.	4.47	6.93	1.55	.10	9.77	3.97	.62	1.47	5.30	1.53	2.31	.80	4.33
St. Paul, Minn.	4.41	1.10	3.05	6.49	3.58	3.70	3.79	2.81	4.40	7.76	4.70	4.61	4.28
Salt Lake City, Utah	.77	.90	3.37	2.68	1.44	.66	.19	.20	T.	.15	.06	.83	1.39
San Antonio, Tex.	3.11	3.22	2.90	.01	.03	.49	.02	3.35	7.01	2.83	4.59	2.92	.79
San Diego, Calif.	.03	.16	.09	T.	T.	T.	T.	.06	----	.02	T.	T.	.04
San Francisco, Calif.	.17	.81	.02	.29	----	T.	T.	T.	T.	.04	T.	.26	.03
Santa Fe, N. Mex.	1.04	2.21	4.26	1.72	.16	.36	.06	.68	1.50	2.04	2.85	.74	.24
Scranton, Pa.	3.57	1.67	1.34	3.05	3.27	4.09	4.48	2.60	4.46	5.00	1.61	7.06	3.05
Seattle, Wash.	1.49	2.76	1.71	1.75	.40	1.82	3.70	.50	.35	1.93	1.29	.03	1.02
Sheridan, Wyo.	1.90	1.12	3.90	1.65	4.71	2.23	1.02	1.27	.54	1.88	1.94	2.21	2.11
Shreveport, La.	3.58	3.79	3.23	2.29	3.10	3.06	.49	2.13	5.53	5.23	3.34	3.77	2.46
Springfield, Mo.	5.19	5.74	2.71	1.48	5.81	5.00	2.69	3.61	4.00	1.43	9.06	.66	6.19
Thomasville, Ga.	4.72	6.61	7.90	2.62	4.15	3.55	2.59	6.74	6.38	3.22	3.51	5.36	10.71
Trenton, N. J.	3.49	2.30	.08	1.74	2.07	2.94	3.15	3.78	1.39	6.03	4.83	4.86	1.47
Walla Walla, Wash.	1.19	1.73	2.11	1.12	.40	1.77	.57	.10	.04	1.03	.67	.51	2.89
Washington, D. C.	4.18	4.36	1.81	6.20	6.56	7.53	6.25	2.06	3.44	4.86	3.45	4.10	2.80
Winnemucca, Nev.	.64	1.14	2.14	2.17	.05	----	.35	1.33	----	.51	.82	.15	2.89

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for July.	July total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	3.17	1.88	1.80	3.07	4.14	0.94	2.68	2.23	1.75	1.85	4.17	1.04	1.85
Atlanta, Ga.	4.73	4.66	4.85	3.66	3.22	10.85	1.98	2.47	7.50	5.95	3.88	6.97	2.69
Birmingham, Ala.	4.70	5.65	4.72	3.91	5.72	20.12	3.71	3.34	5.53	4.63	5.79	5.23	6.42
Bismarck, N. Dak.	2.14	3.18	2.72	2.04	4.02	4.08	1.50	2.09	.76	2.72	2.18	2.77	4.77
Boise, Idaho.	.18	1.27	2.01	1.04	.63	.81	T.	.11	T.	.05	T.	.19	.68
Boston, Mass.	3.36	5.16	2.69	2.04	8.85	5.67	1.10	2.04	4.63	1.56	11.69	2.63	3.86
Brownsville, Tex.	1.88	.13	.28	T.	.15	4.52	4.52	1.34	6.79	2.18	2.81	1.92	1.58
Buffalo, N. Y.	3.40	1.41	1.03	1.30	3.37	2.04	4.46	1.37	1.33	4.50	1.42	2.52	.71
Canton, N. Y.	3.23	1.82	2.13	2.38	5.92	1.01	2.23	3.64	3.10	4.98	2.20	1.86	1.18
Charleston, S. C.	7.26	3.05	5.51	7.14	2.98	11.61	9.95	7.09	8.53	4.69	10.61	8.02	7.23
Charlotte, N. C.	5.49	3.56	4.42	4.83	3.08	16.55	5.85	1.90	7.40	4.11	5.55	5.19	5.89
Cheyenne, Wyo.	1.99	1.82	1.42	1.30	1.71	1.81	1.62	3.90	2.83	2.12	1.37	2.01	3.23
Chicago, Ill.	3.64	3.86	3.30	2.11	5.57	2.22	2.68	2.66	1.59	1.61	1.87	4.00	2.67
Cincinnati, Ohio.	3.54	5.11	2.37	3.00	4.93	1.79	4.04	3.05	2.08	3.19	4.28	2.45	2.51
Cleveland, Ohio.	3.55	8.13	4.85	1.00	4.73	2.48	3.60	1.08	2.46	3.32	3.52	3.98	2.09
Concordia, Kans.	3.62	1.33	.15	1.13	5.10	.82	.60	1.77	.03	4.90	5.24	5.82	4.48
DesMoines, Iowa.	3.86	3.07	1.05	1.22	9.39	1.50	1.58	1.18	2.68	5.66	2.49	7.13	.78
Devils Lake, N. Dak.	2.75	7.44	1.47	1.63	1.00	3.70	1.60	2.81	1.76	2.51	4.49	.87	2.07
Dodge City, Kans.	3.38	.88	.70	.36	3.92	.09	2.76	2.25	1.83	3.79	2.91	2.86	1.95
Dubuque, Iowa.	4.30	4.81	2.31	1.57	5.08	.85	2.10	3.77	7.82	1.11	2.48	6.91	1.67
Duluth, Minn.	3.65	2.24	6.18	2.99	1.60	1.19	4.29	1.23	2.62	4.82	5.41	2.30	5.49
El Paso, Tex.	2.13	1.11	1.13	4.91	2.45	.59	.41	1.52	1.87	.84	2.13	1.06	.20
Eureka, Calif.	.11	.05	.28	.01	.26	1.34	------	.22	.01	.13	------	------	.08
Evansville, Ind.	3.81	5.30	1.35	1.41	2.02	5.46	2.26	1.45	1.32	2.86	2.45	6.39	1.00
Fort Worth, Tex.	3.04	.27	4.36	.73	.30	1.38	2.65	1.10	5.25	3.49	1.14	1.35	.99
Fresno, Calif.	------	T.	.33	T.	------	T.	T.	T.	------	------	------	T.	------
Galveston, Tex.	3.98	.16	1.48	1.29	2.45	4.64	.46	2.24	3.73	3.21	5.77	1.60	5.80
Grand Rapids, Mich.	2.63	7.47	1.96	1.18	4.00	1.07	6.91	1.17	.06	3.60	2.38	4.05	.95
Greenville, Miss.	4.24	3.45	5.01	2.62	8.98	5.60	6.97	8.25	5.82	4.46	5.06	3.54	4.34
Havre, Mont.	1.92	.97	1.28	.41	3.17	5.90	.45	.75	.12	1.51	2.51	2.76	4.33
Indianapolis, Ind.	4.13	6.75	3.88	.49	7.94	2.44	3.20	2.44	.97	4.51	1.42	2.67	2.43
Iola, Kans.	3.92	1.49	2.30	3.75	6.07	T.	4.22	2.48	2.21	4.13	4.03	3.99	2.64
Jacksonville, Fla.	6.20	6.74	6.28	5.13	9.36	3.93	10.36	3.35	6.32	5.47	9.76	3.91	5.14
Kalispell, Mont.	.84	1.56	.38	.69	2.74	1.70	.09	1.47	.88	.98	.62	.81	1.60
Little Rock, Ark.	3.99	1.93	3.74	3.71	.96	.44	4.54	.94	2.36	3.06	1.44	2.39	7.86
Los Angeles, Calif.	------	T.	T.	.01	------	------	T.	.09	------	T.	T.	T.	T.
Lynchburg, Va.	4.03	3.64	1.53	4.53	3.05	9.76	2.97	3.75	5.21	4.82	3.56	2.25	2.52
Madison, Wis.	3.99	5.63	8.47	1.49	5.04	2.66	3.10	2.33	3.96	1.39	2.46	6.09	2.28
Marquette, Mich.	3.10	3.42	3.71	3.45	1.78	1.74	1.99	2.50	2.47	4.62	4.39	3.49	4.11
Memphis, Tenn.	3.51	3.27	5.91	.58	1.16	1.74	5.96	2.27	1.94	3.55	3.19	3.71	3.65
Miami, Fla.	7.24	5.99	2.98	4.52	6.54	2.49	2.48	4.01	5.90	6.61	3.09	8.16	5.20
Mobile, Ala.	7.04	6.79	4.41	5.17	5.82	20.50	10.54	2.85	6.94	7.04	4.89	9.57	4.98
Modena, Utah.	1.26	1.28	.81	1.50	1.41	4.72	1.08	.93	1.37	1.82	2.50	1.22	.81
Nashville, Tenn.	4.35	5.37	4.09	2.58	2.03	4.17	3.25	3.63	1.83	3.00	4.56	6.15	2.13
New Orleans, La.	6.47	7.38	5.37	9.18	7.55	6.78	8.35	2.03	7.62	6.20	7.90	4.05	8.72
Norfolk, Va.	5.80	1.86	10.24	3.91	5.72	3.05	11.73	3.06	7.21	4.33	3.27	11.92	4.14
North Platte, Nebr.	2.68	4.01	3.37	.58	4.66	.59	1.13	1.88	4.98	1.62	.80	4.91	3.63
Oklahoma City, Okla.	3.65	2.32	5.06	.62	1.19	2.87	2.96	.13	.53	4.02	4.43	2.31	.15
Omaha, Nebr.	4.33	1.78	1.92	1.09	7.75	.45	.78	1.76	.63	3.91	4.99	5.60	.86
Parkersburg, W. Va.	4.66	8.07	4.64	2.13	4.21	4.92	6.17	1.28	3.30	4.56	2.80	3.65	5.52
Peoria, Ill.	2.97	5.04	.46	.82	6.91	1.14	1.92	3.46	3.09	1.56	3.95	3.06	1.35
Phoenix, Ariz.	1.07	1.29	.94	.21	1.12	.77	3.97	1.02	1.05	.25	.38	.74	.77
Pierre, S. Dak.	2.35	3.22	2.12	1.53	6.12	2.50	2.68	2.04	2.80	2.81	4.92	2.84	2.67
Pittsburgh, Pa.	4.42	6.61	4.86	1.89	3.37	3.88	2.33	2.22	6.20	3.29	2.81	2.80	6.74
Portland, Oreg.	.54	.48	.24	.01	1.52	2.55	.01	1.08	.23	1.18	T.	T.	2.17
Pueblo, Colo.	1.97	2.50	3.12	3.92	1.91	.83	1.32	.93	2.95	1.62	5.26	.29	4.66
Roseburg, Oreg.	.32	.20	.61	.01	.64	2.22	.01	.57	.06	.42	------	------	.89
Sacramento, Calif.	------	T.	T.	------	T.	.07	T.	------	T.	------	------	T.	------
St. Louis, Mo.	3.43	5.29	3.61	1.52	6.02	1.20	3.17	.60	1.50	.78	2.05	2.42	1.83
St. Paul, Minn.	3.40	4.02	6.11	.95	4.53	.75	4.12	5.05	7.47	1.35	2.39	2.32	2.51
Salt Lake City, Utah.	.54	1.51	.55	1.20	.07	.63	.68	.76	.06	.51	.36	.65	.21
San Antonio, Tex.	2.22	1.27	.03	.02	.92	4.53	2.19	1.68	7.88	.39	.45	.10	2.54
San Diego, Calif.	------	.14	.06	------	T.	.02	T.	T.	T.	T.	T.	.01	.01
San Francisco, Calif.	.01	T.	.07	.02	.01	.03	T.	T.	.01	T.	------	T.	------
Santa Fe, N. Mex.	2.71	1.49	1.12	3.98	4.37	2.77	.45	2.42	4.02	1.04	3.87	1.75	2.06
Scranton, Pa.	3.83	2.11	4.97	6.71	2.60	2.29	2.27	2.59	4.81	5.42	4.90	4.48	4.72
Seattle, Wash.	.67	1.15	.73	.01	.84	1.93	.09	1.38	.22	1.00	.18	------	.66
Sheridan, Wyo.	1.04	4.42	1.70	.13	1.44	.83	.17	1.78	.37	1.51	.56	2.11	6.37
Shreveport, La.	3.72	3.73	.70	.84	2.44	3.09	9.30	T.	.70	4.02	4.29	4.09	2.49
Springfield, Mo.	4.79	1.40	3.84	3.35	1.82	.74	4.15	1.11	1.96	2.42	.79	6.15	2.67
Thomasville, Ga.	5.32	5.34	4.78	6.20	4.68	13.32	9.11	2.46	9.81	3.38	6.71	3.64	10.39
Trenton, N. J.	4.77	3.21	1.50	4.75	7.20	5.94	4.24	4.97	10.41	2.16	2.01	2.29	3.18
Walla Walla, Wash.	.39	.59	.04	.12	.65	.72	T.	.96	.09	.13	.35	.04	.35
Washington, D. C.	4.65	7.21	3.24	2.32	3.21	4.97	2.41	3.79	6.80	5.71	4.79	9.59	4.22
Winnemucca, Nev.	.17	.52	1.55	.19	.05	.01	.06	.27	T	T.	T.	.36	.24

[1] Normals are based on records of 20 or more years of observations.
T—Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Aug.	August total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	2.81	2.28	0.61	2.97	5.85	3.82	6.17	2.36	3.21	5.52	5.77	0.78	1.54
Atlanta, Ga.	4.48	3.70	2.53	5.04	4.92	3.61	5.61	4.20	3.80	10.02	8.03	2.72	4.17
Birmingham, Ala.	4.48	5.60	1.01	6.38	4.40	3.51	8.98	.98	5.33	9.09	3.97	2.96	6.90
Bismarck, N. Dak.	1.98	2.33	.77	2.02	3.44	1.97	1.37	2.62	1.46	.59	.18	.22	.63
Boise, Idaho.	.16	.07	.03	.04	T.	.45	T.	.48	T.	.33	.34	1.13	.20
Boston, Mass.	4.03	1.94	2.86	3.20	5.63	2.19	7.06	1.56	5.07	2.32	1.63	4.75	1.36
Brownsville, Tex.	2.59	.12	1.04	.68	2.58	5.58	.29	.40	.25	.00	.14	2.43	1.34
Buffalo, N. Y.	2.99	4.00	3.26	4.95	6.19	1.46	1.86	3.02	3.04	1.77	1.80	4.62	1.26
Canton, N. Y.	2.69	4.44	2.91	4.23	5.66	1.84	4.50	3.18	2.60	1.94	3.91	4.25	2.26
Charleston, S. C.	6.97	2.77	3.50	4.43	5.40	3.10	5.06	2.87	5.70	7.02	5.70	5.18	12.29
Charlotte, N. C.	5.55	1.87	4.48	2.25	4.59	2.70	4.84	2.18	3.94	8.91	2.78	2.74	2.93
Cheyenne, Wyo.	1.47	1.44	1.43	1.67	3.98	1.26	1.75	1.68	.43	1.32	.61	2.16	2.06
Chicago, Ill.	2.88	3.59	4.06	3.76	4.33	1.05	1.24	1.27	1.10	3.16	4.92	1.45	7.76
Cincinnati, Ohio.	3.33	5.00	1.27	4.28	4.13	3.57	1.70	4.53	.92	6.10	6.02	5.60	3.72
Cleveland, Ohio.	3.15	4.54	2.26	3.93	1.47	1.36	4.65	2.47	7.19	2.33	3.32	1.20	3.97
Concordia, Kans.	2.81	5.18	.30	2.11	1.99	1.21	2.63	3.10	1.00	5.15	1.93	.88	2.75
Des Moines, Iowa.	3.61	3.52	3.44	1.77	1.71	2.62	1.82	2.54	2.19	2.11	6.63	6.63	5.34
Devils Lake, N. Dak.	2.76	2.99	3.93	2.06	.90	3.16	1.12	2.25	2.28	2.21	5.63	1.72	2.25
Dodge City, Kans.	2.59	5.80	.72	1.23	6.16	2.25	4.46	.84	1.23	2.43	2.65	3.19	1.46
Dubuque, Iowa.	3.04	6.79	3.60	4.01	2.84	1.49	2.11	6.09	1.58	3.44	4.29	1.99	4.77
Duluth, Minn.	3.53	3.25	1.26	4.20	1.56	3.37	2.04	2.32	2.99	1.44	2.84	2.01	1.76
El Paso, Tex.	1.72	2.83	.54	1.85	1.37	3.07	4.39	1.66	.72	1.33	.35	.27	2.96
Eureka, Calif.	.10	.08	.03	T.	------	.12	.02	.21	.01	.49	.01	.03	.02
Evansville, Ind.	3.24	4.00	1.74	3.59	7.83	4.31	1.92	3.03	2.49	6.31	5.26	3.08	3.09
Fort Worth, Tex.	1.87	6.56	T.	9.02	10.33	3.84	1.92	.29	5.00	4.22	.96	.52	1.68
Fresno, Calif.	------	------	T.	T.	------	.08	T.	------	------	.15	------	T.	------
Galveston, Tex.	5.01	1.59	3.88	8.17	19.08	4.14	2.71	3.04	2.17	2.65	1.42	2.53	4.61
Grand Rapids, Mich.	2.59	3.16	.97	3.49	2.87	4.41	0.46	.84	1.67	.76	6.15	2.96	2.07
Greenville, Me.	3.80	5.38	2.80	2.90	6.13	2.95	4.98	1.42	3.77	4.61	5.56	3.41	2.85
Havre, Mont.	1.26	2.24	.74	2.43	.94	.34	.43	2.61	.76	.81	.27	1.70	1.47
Indianapolis, Ind.	3.33	3.12	4.98	5.58	5.25	2.47	1.48	2.24	3.43	1.85	7.26	2.45	4.83
Iola, Kans.	3.47	3.78	.15	2.74	5.05	2.43	3.91	1.50	2.22	7.55	5.79	3.65	3.39
Jacksonville, Fla.	6.21	5.32	3.32	8.47	4.08	6.76	6.65	3.12	6.96	7.46	7.70	7.71	4.67
Kalispell, Mont.	.89	1.03	.61	1.31	.22	1.96	.32	.96	1.06	2.61	.56	.76	.96
Little Rock, Ark.	3.65	4.98	2.40	4.77	10.33	3.59	4.38	1.42	3.45	3.33	7.06	.83	2.55
Los Angeles, Calif.	------	------	T.	------	------	T.	T.	.03	T.	------	T.	------	T.
Lynchburg, Va.	4.25	1.28	2.40	2.60	5.45	2.69	3.53	2.91	3.03	6.76	.83	1.18	3.44
Madison, Wis.	3.21	3.16	1.59	3.60	4.39	4.24	2.72	2.03	.89	2.61	3.97	1.33	5.59
Marquette, Mich.	2.86	5.83	.73	2.12	5.43	.99	3.28	3.20	1.60	3.50	3.48	2.02	1.08
Memphis, Tenn.	3.20	3.41	3.09	7.31	10.60	2.98	2.55	2.56	.82	2.32	5.84	.76	5.06
Miami, Fla.	7.60	2.93	5.67	3.77	1.37	10.10	4.32	1.43	3.73	4.12	3.14	7.97	6.34
Mobile, Ala.	6.81	8.25	5.61	9.78	7.69	5.46	6.42	14.16	6.04	7.78	8.37	5.13	4.46
Modena, Utah.	1.83	.13	1.07	.73	.46	1.97	.26	1.26	.50	.81	2.44	2.41	2.13
Nashville, Tenn.	3.47	3.06	.85	8.64	6.03	4.27	3.02	3.05	6.80	6.85	2.85	3.83	9.60
New Orleans, La.	5.61	4.93	5.29	8.47	7.22	4.89	6.92	6.19	7.38	4.18	3.09	5.71	7.60
Norfolk, Va.	5.97	2.12	4.14	1.10	2.46	2.99	4.54	2.48	3.47	3.83	3.13	8.04	4.47
North Platte, Nebr.	2.46	1.27	.98	3.45	4.23	2.35	1.96	1.73	.76	4.73	2.57	2.26	4.70
Oklahoma City, Okla.	3.17	3.61	.57	2.76	5.26	.68	4.50	1.91	2.28	4.86	.85	.19	3.57
Omaha, Nebr.	3.62	4.78	.18	2.24	3.06	2.74	3.65	1.14	2.91	2.78	2.07	1.01	4.24
Parkersburg, W. Va.	3.53	3.05	2.53	5.05	4.78	2.41	2.18	5.14	4.60	2.65	3.71	7.44	7.36
Peoria, Ill.	2.93	1.67	2.87	2.40	4.78	6.03	3.36	5.88	4.73	1.87	3.86	.72	2.84
Phoenix, Ariz.	.96	.72	.32	.30	.25	.30	.11	3.47	2.40	.75	1.62	.57	.66
Pierre, S. Dak.	2.01	3.85	1.37	2.19	.55	4.65	1.93	2.30	2.24	2.07	1.59	2.03	3.76
Pittsburgh, Pa.	3.18	2.39	2.81	4.52	2.73	4.73	4.75	4.84	7.15	2.53	3.03	2.35	4.24
Portland, Oreg.	.65	3.39	.76	.01	.01	.27	T.	.31	.10	1.25	.30	2.06	.26
Pueblo, Colo.	1.57	1.85	.87	2.18	3.27	3.12	1.74	.57	3.23	1.89	2.24	.99	4.65
Roseburg, Oreg.	.33	.59	.19	T.	.03	.36	T.	1.05	.02	.22	.04	.32	.30
Sacramento, Calif.	.01	------	.01	------	.01	T.	T.	T.	T.	T.	------	T.	T.
St. Louis, Mo.	2.66	2.65	1.59	5.42	11.43	10.69	1.99	5.26	3.03	4.16	2.75	1.79	6.19
St. Paul, Minn.	3.46	4.40	1.59	4.48	3.93	1.60	2.82	5.19	2.22	.96	2.79	1.31	1.92
Salt Lake City, Utah	.78	.70	.47	.24	T.	.60	.71	.61	.50	1.31	.82	1.85	2.41
San Antonio, Tex.	2.69	.29	1.29	7.80	3.90	5.07	.10	2.61	2.14	2.26	.45	.37	2.94
San Diego, Calif.	------	.26	.02	------	------	.01	T.	.11	.01	.01	T.	T.	T.
San Francisco, Calif.	------	------	.01	------	------	.29	T.	------	T.	------	------	T.	.01
Santa Fe, N. Mex.	2.36	1.15	1.07	2.51	1.02	1.67	1.37	.82	2.06	1.98	3.71	1.85	2.33
Scranton, Pa.	4.25	4.91	2.54	2.56	8.17	.67	3.94	4.04	2.30	3.33	2.96	2.56	3.32
Seattle, Wash.	.51	2.49	.45	.01	.05	.11	.03	1.12	.06	1.15	1.61	1.17	1.98
Sheridan, Wyo.	.73	1.18	.20	.65	.89	.13	.83	.93	.18	.68	.24	1.65	1.44
Shreveport, La.	2.24	10.89	1.89	4.00	8.60	.55	5.55	2.23	3.85	2.82	.64	2.04	2.63
Springfield, Mo.	4.31	3.00	.68	4.70	10.81	4.45	4.26	3.12	.53	6.31	7.59	2.47	.78
Thomasville, Ga.	5.03	7.12	4.39	3.96	2.76	1.01	3.95	6.16	8.16	4.96	3.56	2.71	6.89
Trenton, N. J.	3.37	1.71	3.30	1.68	6.22	1.25	2.11	2.52	4.82	7.08	8.01	5.16	3.32
Walla Walla, Wash.	.45	2.67	.30	T.	T.	.17	T.	.99	.06	1.87	.57	1.25	.87
Washington, D. C.	4.40	1.50	5.42	6.00	7.00	2.83	.77	1.88	3.41	4.70	1.10	3.66	2.19
Winnemucca, Nev.	.17	.13	.80	T.	.06	.11	.57	.37	T.	.76	.16	.91	.25

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Sept.	September total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex	2.36	2.28	4.19	1.07	4.69	1.76	2.05	0.64	4.58	3.04	0.76	1.41	6.42
Atlanta, Ga	3.53	3.52	2.40	2.48	3.53	2.84	6.44	3.57	1.12	3.36	1.31	1.16	.54
Birmingham, Ala	3.50	3.62	7.41	3.95	6.54	2.63	6.01	7.73	1.09	4.12	4.20	1.54	1.50
Bismarck, N. Dak	1.19	2.42	2.29	1.10	1.68	.70	1.75	.47	.34	1.20	1.67	1.93	2.83
Boise, Idaho	.41	.77	.65	.35	.26	.05	1.39	2.32	.79	.64	.61	.01	.55
Boston, Mass	3.19	1.67	2.51	.21	.69	1.90	1.91	9.19	5.83	1.90	1.22	3.65	.38
Brownsville, Tex	5.42	2.35	14.38	.86	2.54	3.21	1.03	.97	7.69	.34	3.82	12.61	4.55
Buffalo, N. Y	3.18	3.31	1.35	2.31	1.35	1.38	2.29	3.79	1.47	2.03	1.96	1.25	1.86
Canton, N. Y	2.81	4.40	2.26	1.73	1.32	3.42	2.02	6.05	4.69	5.11	3.52	.96	2.10
Charleston, S. C	5.46	10.42	7.26	4.69	2.07	2.76	2.34	3.10	1.76	8.30	5.19	1.13	2.11
Charlotte, N. C	3.22	3.50	2.45	2.02	2.37	.88	3.29	5.83	.84	3.53	2.55	1.23	2.32
Cheyenne, Wyo	.94	3.91	2.82	.41	2.10	1.00	.56	2.57	1.76	2.31	.02	.36	2.78
Chicago, Ill	3.02	3.26	1.49	1.56	3.53	2.24	2.15	1.84	3.85	3.35	5.72	4.37	2.50
Cincinnati, Ohio	2.31	1.95	1.86	.90	5.65	3.29	2.97	2.70	3.79	2.98	3.00	2.93	1.40
Cleveland, Ohio	3.22	2.39	2.10	1.16	4.23	2.84	2.74	3.78	1.79	1.85	2.77	1.60	3.32
Concordia, Kans	2.58	2.68	3.03	4.61	3.47	2.70	.56	1.72	3.08	.36	1.36	1.35	2.94
Des Moines, Iowa	3.07	4.20	2.65	14.81	4.51	1.72	1.99	.91	7.47	4.44	7.16	3.00	5.17
Devils Lake, N. Dak	1.39	1.11	2.17	1.57	3.11	.89	.83	.48	.95	5.34	3.58	3.30	1.63
Dodge City, Kans	1.77	2.70	5.40	.53	3.79	1.15	.36	2.20	1.01	3.34	1.53	1.84	2.50
Dubuque, Iowa	3.59	4.42	3.59	4.75	9.62	6.19	2.40	1.63	5.35	1.46	8.35	3.40	5.04
Duluth, Minn	2.55	1.80	3.32	2.55	2.28	4.25	2.15	1.41	1.42	1.31	3.09	2.23	2.61
El Paso, Tex	1.45	1.77	.60	.56	2.68	.55	.76	.01	3.30	.31	2.49	1.07	.41
Eureka, Calif	1.11	2.40	.48	1.82	.11	.38	.66	1.42	1.52	2.47	.27	.37	1.54
Evansville, Ind	2.66	2.64	4.31	5.06	2.98	2.57	3.35	3.33	3.59	3.36	3.87	2.16	1.84
Fort Worth, Tex	2.95	.83	7.29	1.61	1.62	.73	2.41	2.09	4.12	2.76	.11	.41	2.06
Fresno, Calif	.27	.10	T.	.22	T.	.38	T.	.53	.29	T.	.21	------	.25
Galveston, Tex	5.41	1.04	18.68	5.30	2.12	4.24	3.60	2.03	5.29	2.86	8.37	8.89	9.91
Grand Rapids, Mich	3.12	3.42	2.25	2.34	8.11	2.43	3.59	2.01	3.86	3.68	4.33	5.04	5.77
Greenville, Me	4.17	4.89	4.30	2.68	3.74	4.23	1.80	6.52	3.71	5.60	3.53	1.89	2.11
Havre, Mont	1.03	1.20	.82	1.37	2.05	1.42	4.58	.98	.79	.34	1.50	.66	.50
Indianapolis, Ind	3.05	3.44	3.03	2.15	4.17	2.26	2.93	5.14	1.86	2.37	7.54	1.52	3.91
Jola, Kans	3.35	3.82	3.12	5.49	13.22	5.56	1.85	3.51	1.02	4.18	7.10	4.33	4.23
Jacksonville, Fla	8.03	7.69	3.74	6.39	8.41	5.25	3.47	6.17	5.63	7.14	1.73	6.70	4.89
Kalispell, Mont	1.33	.68	.31	1.21	2.04	1.63	.83	1.59	.50	.70	.79	.52	.23
Little Rock, Ark	3.26	2.59	9.25	1.93	1.16	1.95	.27	4.63	2.78	2.88	2.18	.93	3.93
Los Angeles, Calif	.06	------	.03	------	T.	.77	T.	.55	1.29	.04	.62	------	.55
Lynchburg, Va	3.63	6.96	2.44	.67	3.26	2.55	1.96	2.61	.47	4.51	1.71	1.42	2.84
Madison, Wis	3.18	5.62	4.32	3.49	10.69	5.73	2.98	1.52	6.83	1.12	7.90	2.34	4.36
Marquette, Mich	3.51	2.19	3.76	1.28	3.68	5.74	2.10	5.49	2.49	1.94	4.30	3.26	1.63
Memphis, Tenn	3.05	2.05	6.01	3.92	.55	1.07	1.88	4.95	1.34	10.82	1.58	1.41	5.47
Miami, Fla	9.61	2.08	6.46	6.68	5.47	4.81	18.55	10.06	3.72	6.94	2.81	11.04	6.21
Mobile, Ala	5.02	5.76	15.50	7.96	4.08	6.68	6.90	5.17	1.10	7.81	3.74	3.19	.47
Modena, Utah	1.12	.06	.98	.49	1.44	.71	.79	1.22	3.29	.22	.23	.04	.46
Nashville, Tenn	3.68	2.46	1.79	1.46	4.63	1.92	1.51	3.75	1.33	4.15	3.72	3.28	1.44
New Orleans, La	4.81	3.84	11.84	5.05	10.83	3.13	2.69	4.82	2.93	6.47	3.94	.93	2.63
Norfolk, Va	4.06	2.61	5.23	2.97	1.76	3.53	5.26	3.12	.70	3.11	2.43	.53	3.23
North Platte, Nebr	1.50	2.04	.90	.17	1.81	.70	2.68	.38	1.56	.83	1.00	1.00	.88
Oklahoma City, Okla	2.75	2.64	4.80	1.70	3.62	2.54	1.55	4.28	1.03	3.60	3.79	.90	10.28
Omaha, Nebr	3.03	7.12	3.62	3.56	2.17	1.76	.91	1.03	5.28	1.03	5.35	1.29	9.32
Parkersburg, W. Va	2.72	1.60	2.96	.62	4.19	3.18	1.41	2.53	.98	3.69	4.47	3.73	2.92
Peoria, Ill	3.12	3.54	2.58	5.55	4.88	3.73	3.14	1.07	3.48	1.84	4.86	2.71	5.28
Phoenix, Ariz	1.01	.14	.13	T.	.10	1.66	.55	.39	1.93	.10	.33	.13	.97
Pierre, S. Dak	1.11	1.86	.56	.79	2.18	1.06	1.83	.04	1.59	.98	3.21	.19	1.21
Pittsburgh, Pa	2.48	2.89	2.86	.69	1.71	1.63	1.90	2.22	1.64	3.48	5.07	1.54	1.62
Portland, Oreg	1.84	1.18	2.58	3.10	.53	.71	1.96	.66	3.18	4.16	3.08	1.90	.59
Pueblo, Colo	.62	.52	.79	.32	1.42	T	3.25	1.43	2.04	1.33	.25	.09	1.36
Roseburg, Oreg	1.04	1.99	1.44	2.80	.57	.59	.73	.59	3.36	2.27	1.45	1.56	1.63
Sacramento, Calif	.39	1.25	T.	T.	T.	.16	.51	3.58	.53	.01	T.	------	.50
St. Louis, Mo	2.91	2.84	4.50	6.68	1.41	2.69	3.50	5.09	6.13	4.79	5.60	2.49	3.51
St. Paul, Minn	3.42	1.27	3.34	2.16	2.92	1.81	2.00	1.49	1.25	1.36	3.21	1.82	1.10
Salt Lake City, Utah	.85	.97	.93	.17	1.60	.50	1.16	2.10	1.76	1.56	.44	.01	1.41
San Antonio, Tex	2.94	1.47	7.21	2.24	2.39	3.78	1.39	1.49	7.61	.15	8.27	.97	2.98
San Diego, Calif	.06	------	.02	T.	T.	.25	T.	.08	.26	.08	1.24	------	.03
San Francisco, Calif	.29	1.25	------	T.	------	1.20	.02	2.53	.39	.13	.35	T.	.44
Santa Fe, N. Mex	1.64	.08	1.54	.59	1.62	1.45	.64	.76	2.53	.77	.18	1.07	1.10
Scranton, Pa	2.86	6.94	3.87	1.05	2.91	4.35	.91	4.59	2.21	4.94	4.38	1.18	4.38
Seattle, Wash	1.77	.73	2.37	1.42	.65	.70	1.29	.08	2.03	2.34	1.84	1.19	1.37
Sheridan, Wyo	1.34	3.79	2.04	.80	3.75	.56	.30	2.68	1.10	.16	.51	.08	8.18
Shreveseport, La	3.22	1.15	16.46	.15	1.75	1.46	2.56	.36	2.16	1.10	.56	1.36	9.08
Springfield, Mo	3.76	4.13	3.85	3.59	3.06	1.19	3.74	4.82	1.62	4.42	3.90	.95	3.82
Thomasville, Ga	4.25	10.42	2.30	7.58	4.41	3.20	2.15	3.44	.34	6.07	1.60	3.42	2.32
Trenton, N. J	3.59	2.90	4.66	.41	.62	2.51	3.89	3.20	2.74	2.23	1.69	1.75	4.19
Walla Walla, Wash	.93	.61	1.29	1.52	.70	.15	1.31	.32	1.26	1.99	.79	.41	.21
Washington, D. C	3.50	5.86	2.41	.66	1.39	2.57	1.34	2.79	1.77	2.87	3.29	6.27	3.15
Winnemucca, Nev	.84	.34	.51	.48	.94	.26	T.	1.53	.49	.40	.01	------	1.16

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1918–1923*—Continued.

Station.	Normal for Oct.	October total precipitation.											
		1912	1913	1914	1915	1916	1917	1818	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarille, Tex	1.71	0.39	0.81	4.46	1.55	2.90	0.34	2.47	0.67	1.87	0.28	0.23	7.34
Atlanta, Ga	2.34	4.62	2.24	6.14	6.45	2.11	1.60	4.04	5.04	.54	2.85	3.48	1.59
Birmingham, Ala	2.34	1.77	1.55	2.52	3.57	.83	1.83	10.84	2.31	.54	1.94	1.81	1.60
Bismarck, N. Dak	1.08	.94	1.13	.79	1.52	.18	.21	.28	.98	.26	1.58	.63	1.03
Boise, Idaho	1.28	2.51	1.67	1.20	.21	.84	T.	1.98	1.41	2.34	.16	.52	2.73
Boston, Mass	3.86	1.00	6.04	1.54	2.82	.94	5.33	.99	2.13	1.64	1.24	1.97	3.37
Brownsville, Tex	2.22	12.53	1.76	2.58	.82	2.23	T.	3.37	4.52	3.56	1.90	.74	5.45
Buffalo, N. Y	3.53	4.25	3.65	1.80	2.11	2.33	6.90	1.95	5.32	1.77	2.86	2.70	1.66
Canton, N. Y	3.34	2.33	5.87	1.82	2.55	2.22	5.64	5.21	3.81	1.68	4.90	2.61	3.42
Charleston, S. C	3.98	.98	6.65	4.14	4.27	4.37	.32	1.66	.28	.06	1.70	5.72	2.69
Charlotte, N. C	3.15	1.14	2.29	3.11	2.97	2.64	1.95	3.00	4.46	.10	1.76	5.32	1.13
Cheyenne, Wyo	.72	2.59	1.43	1.29	1.11	1.95	.39	.66	1.67	.96	.06	.23	2.83
Chicago, Ill	2.55	3.52	2.23	2.89	.40	3.88	3.96	2.94	6.41	1.57	3.26	3.40	4.57
Cincinnati, Ohio	2.32	2.12	2.71	3.59	2.36	1.81	2.79	2.68	9.51	1.76	2.72	1.23	.92
Cleveland, Ohio	2.73	3.16	3.06	2.39	1.77	2.19	5.09	2.11	3.17	2.57	2.91	1.58	1.73
Concordia, Kans	2.00	3.11	1.19	2.49	3.40	1.06	.30	4.49	1.05	1.61	.72	1.14	1.75
Des Moines, Iowa	2.68	3.75	2.67	3.57	.43	2.11	.92	3.81	2.20	1.89	1.51	3.41	1.10
Devils Lake, N. Dak	1.23	1.38	1.40	1.15	.45	.67	1.32	.55	.65	.23	1.31	.52	1.25
Dodge City, Kans	1.40	.15	.30	.43	.81	.79	.07	1.67	1.01	3.58	.23	.45	3.82
Dubuque, Iowa	2.68	3.50	2.92	2.88	2.03	3.32	1.87	2.85	6.22	2.18	3.43	.72	1.07
Duluth, Minn	2.74	.68	3.38	1.14	3.08	1.13	2.83	2.18	2.71	4.10	.70	.56	.46
El Paso, Tex	.95	.50	T.	.80	.18	1.07	T.	1.03	.97	.57	.11	.35	.68
Eureka, Calif	2.65	1.55	.88	3.79	.79	.47	------	1.00	.24	4.11	1.59	3.38	2.55
Evansville, Ind	3.10	2.59	2.69	2.75	1.33	2.05	3.05	2.49	8.40	1.65	2.03	2.12	3.78
Forth Worth, Tex	2.51	1.51	2.28	.28	2.58	1.89	.17	3.31	9.44	6.52	.31	2.33	6.05
Fresno, Calif	.72	.01	T.	.26	------	1.16	------	.11	.29	.84	T.	.52	.37
Galveston, Tex	4.18	2.04	15.37	2.95	2.81	.99	1.49	2.78	8.30	7.92	3.83	4.78	3.11
Grand Rapids, Mich	2.54	3.97	2.92	2.72	.60	3.73	4.57	3.59	3.91	1.82	3.61	2.87	3.30
Greenville, Me	3.36	4.42	7.64	3.07	1.83	2.87	6.40	5.38	4.13	3.22	4.82	3.14	3.45
Havre, Mont	.50	.76	.88	2.82	.42	1.01	.38	1.05	.75	1.25	.16	.09	.71
Indianapolis, Ind	2.79	2.10	2.73	1.67	1.72	1.47	3.96	2.75	8.98	1.96	1.70	1.78	3.39
Jola, Kans	2.27	3.59	3.70	4.65	1.00	1.67	.87	5.08	5.33	4.09	.88	1.30	7.42
Jacksonville, Fla	5.06	3.17	1.35	2.34	5.45	4.77	.38	3.97	1.81	.11	6.37	8.84	4.75
Kalispell, Mont	1.17	.41	1.29	3.40	.34	.62	.54	.91	1.05	1.25	1.15	1.05	.55
Little Rock, Ark	2.55	3.87	4.78	1.47	2.19	2.92	2.03	4.14	15.29	3.23	.14	.77	1.00
Los Angeles, Calif	.77	.56	T.	.31	------	2.71	------	T.	.56	.76	.89	.24	.04
Lynchburg, Va	3.38	.96	3.30	4.42	3.21	2.23	2.24	.95	2.65	.10	2.45	4.19	1.50
Madison, Wis	2.42	2.49	2.53	3.09	.48	2.97	3.08	3.18	5.95	1.90	3.79	.65	2.12
Marquette, Mich	3.19	2.74	3.20	1.03	2.67	4.89	2.96	3.91	3.26	1.82	1.29	1.74	2.70
Memphis, Tenn	2.74	2.64	3.53	1.81	3.02	2.28	1.72	2.57	10.13	2.68	1.40	.89	2.74
Miami, Fla	10.54	3.29	4.51	6.92	11.65	5.03	2.11	4.82	3.73	5.04	18.20	15.85	2.77
Mobile, Ala	3.18	11.21	1.70	.75	4.53	2.52	.70	10.57	8.53	4.65	1.42	4.61	5.04
Modena, Utah	.82	3.17	.25	.30	.07	2.18	------	.09	.03	2.40	1.97	.37	.10
Nashville, Tenn	2.48	2.45	2.93	2.80	.42	2.67	2.25	3.44	8.35	2.75	2.93	.75	1.23
New Orleans, La	2.93	2.47	5.53	2.63	12.07	8.51	.71	11.07	4.21	3.59	1.85	3.25	2.25
Norfolk, Va	3.91	.78	2.68	2.39	2.29	2.62	2.89	.79	2.27	.94	1.28	2.75	1.70
North Platte, Nebr	1.15	1.12	.14	.92	1.07	.81	.32	1.43	1.36	1.29	.92	.14	1.77
Oklahoma City, Okla	1.81	1.38	2.52	1.50	2.84	1.73	.02	5.31	8.12	7.38	.18	4.30	9.64
Omaha, Nebr	2.35	2.41	1.06	3.70	.89	1.17	.55	4.65	2.79	2.87	1.52	1.45	.71
Parkersburg, W. Va	2.44	1.43	2.55	2.91	2.64	2.53	4.77	3.19	5.37	1.40	1.97	2.73	.82
Peoria, Ill	2.57	4.08	3.11	2.15	.55	2.03	2.23	2.97	2.12	1.93	2.97	2.02	3.85
Phoenix, Ariz	.35	.82	.01	2.30	T.	.65	T.	.52	.25	.46	.11	T.	.22
Pierre, S. Dak	.81	.10	.53	1.95	1.20	.67	.02	.41	2.19	1.25	1.28	.44	.30
Pittsburgh, Pa	2.36	2.07	4.26	3.07	2.84	2.31	5.27	3.08	5.37	1.48	2.25	1.62	1.05
Portland, Oreg	3.60	3.36	3.62	3.47	1.96	1.26	.03	4.47	1.43	3.71	2.78	4.70	1.61
Pueblo, Colo	.70	.58	.17	1.66	.41	.71	.51	.14	.30	.91	1.21	.19	2.75
Roseburg, Oreg	2.61	2.22	1.76	3.56	.94	.43	.02	1.18	2.28	3.78	2.13	3.50	3.40
Sacramento, Calif	1.04	.58	.13	.82	T.	.79	T.	.40	.01	1.29	.80	.72	.58
St. Louis, Mo	2.41	2.61	4.08	7.45	.90	1.64	1.87	3.63	8.52	2.36	1.45	1.74	3.74
St. Paul, Minn	2.34	1.18	2.03	1.88	1.59	1.26	1.68	2.61	1.91	1.85	.48	1.08	2.00
Salt Lake City, Utah	1.40	2.97	1.31	2.61	.01	2.45	.03	1.13	2.52	3.57	1.29	.66	2.18
San Antonio, Tex	1.49	2.74	8.86	5.78	1.11	2.57	.42	4.05	8.66	2.85	1.02	3.55	1.39
San Diego, Calif	.46	.89	T.	1.05	------	.87	.17	.42	1.04	.18	.67	.09	.37
San Francisco, Calif	1.29	.49	.35	.29	.01	.52	------	.17	.27	1.83	.52	2.95	.46
Santa Fe, N. Mex	1.07	.84	.42	2.40	.04	2.76	.19	2.73	1.82	1.42	.98	.24	2.43
Scranton, Pa	2.91	2.75	2.99	1.05	1.13	.91	6.07	3.25	3.94	2.02	2.78	3.56	2.42
Seattle, Wash	2.67	3.97	2.00	4.37	3.00	1.18	.16	3.46	1.59	4.19	3.91	2.37	2.05
Sheridan, Wyo	1.02	1.64	2.05	.65	.43	2.85	1.77	.51	2.87	1.19	.24	1.35	1.72
Shreveport, La	3.18	.90	2.95	.32	1.95	2.17	2.13	4.25	11.75	2.89	.08	.45	2.43
Springfield, Me	2.80	3.39	3.57	2.84	2.56	1.24	.81	2.72	11.94	4.09	2.55	1.66	4.79
Thomasville, Ga	3.46	.86	3.32	2.17	9.63	4.88	.35	1.65	.43	1.23	1.66	4.75	1.38
Trenton, N. J	3.41	2.57	6.29	1.74	1.99	.96	5.30	.74	3.09	.92	.34	.81	2.35
Walla Walla, Wash	1.47	2.13	2.44	1.99	.99	.98	.01	1.53	1.95	1.65	1.39	.89	3.11
Washington, D. C	3.09	.65	3.37	1.65	3.72	1.76	4.81	.86	3.64	.40	1.35	1.41	1.36
Winnemucca, Nev	.52	1.35	.51	.63	.05	1.42	T.	.45	.66	.52	.05	.31	1.05

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Nov.	November total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	1.16	.02	1.98	T.	0.18	0.40	0.59	1.16	1.26	1.33	T.	1.39	2.13
Atlanta, Ga.	3.40	1.05	.54	4.89	1.53	2.53	1.51	3.68	2.92	3.33	6.47	1.42	3.55
Birmingham, Ala.	3.39	1.18	3.24	2.28	3.54	2.61	1.55	5.25	4.01	2.45	2.14	2.59	5.50
Bismarck, N. Dak.	.68	T.	.16	.42	.57	.13	.04	.51	.92	.39	.84	1.51	.29
Boise, Idaho	.86	.88	2.82	.11	1.07	1.07	1.17	.24	2.34	1.82	3.27	.52	.55
Boston, Mass.	4.19	2.61	2.15	2.72	2.14	1.67	.89	1.20	5.36	5.46	6.19	.84	2.78
Brownsville, Tex.	2.06	1.40	.67	5.13	.14	1.39	.29	2.16	2.34	.42	1.22	3.67	3.34
Buffalo, N. Y.	3.35	2.68	2.43	1.81	1.86	1.53	1.17	1.43	1.38	4.30	3.77	1.08	2.74
Canton, N. Y.	3.41	6.50	2.72	2.31	1.25	1.63	1.74	2.24	1.13	4.45	2.67	1.66	3.84
Charleston, S. C.	2.87	1.30	1.19	2.34	1.65	1.11	.31	2.34	.23	3.07	1.82	.10	1.79
Charlotte, N. C.	2.86	1.90	3.22	2.45	1.96	.36	.75	3.23	1.02	4.95	4.02	.92	3.09
Cheyenne, Wyo.	.41	.58	.37	.26	.19	.88	.40	.54	1.63	.22	.34	2.40	.23
Chicago, Ill.	2.50	1.45	1.47	.33	2.03	2.11	.56	2.65	2.38	.92	3.51	2.66	1.46
Cincinnati, Ohio	3.21	.71	4.26	1.20	2.34	1.85	.31	1.65	3.65	2.92	5.67	1.88	2.28
Cleveland, Ohio	2.75	.89	3.98	1.34	1.84	2.35	1.37	1.77	1.31	2.25	3.93	1.37	2.64
Concordia, Kans.	.94	.10	1.90	T.	.99	.77	.07	1.24	1.71	1.47	.08	2.05	.61
Des Moines, Iowa	1.48	1.11	1.03	.35	1.24	1.46	.21	2.10	3.84	1.63	.35	2.54	.55
Devils Lake, N. Dak.	.71	.09	.17	.57	.60	.12	.32	1.80	1.01	.76	.43	2.38	.47
Dodge City, Kans.	.55	.26	2.14	T.	.08	.03	.58	.37	1.11	1.13	T.	.95	.53
Dubuque, Iowa	1.81	1.51	1.23	.21	1.65	1.17	.07	1.10	3.59	2.01	.91	4.41	1.19
Duluth, Minn.	1.58	.21	.74	1.15	3.27	.09	.09	1.94	3.86	1.40	.70	3.57	.63
El Paso, Tex.	.59	.80	.97	1.13	.01	.52	.04	1.04	.93	T.	.22	.29	.53
Eureka, Calif.	5.67	6.86	5.29	2.42	6.15	3.13	6.43	4.74	2.99	6.35	6.21	3.32	2.90
Evansville, Ind.	4.11	.25	4.87	.65	3.40	1.11	2.19	.98	3.73	1.38	9.24	1.64	3.54
Fort Worth, Tex.	1.57	.33	5.90	6.44	.29	1.82	1.35	7.94	3.32	1.70	1.24	2.57	1.63
Fresno, Calif.	1.03	.85	1.86	.11	.30	.28	.35	1.81	.04	.99	.26	.62	.10
Galveston, Tex.	4.02	.41	2.49	9.19	1.47	2.16	.97	8.15	1.97	3.64	1.61	2.54	4.11
Grand Rapids, Mich.	2.53	2.69	2.86	1.47	1.52	2.12	1.21	2.63	2.30	1.54	3.64	2.39	1.09
Greenville, Me.	3.03	4.17	2.98	2.10	2.56	4.17	1.26	3.77	3.58	3.75	5.69	1.97	3.39
Havre, Mont.	.77	.15	.83	.24	.12	.46	.02	.53	.90	.07	1.09	.54	.17
Indianapolis, Ind.	3.52	1.21	6.20	1.45	3.05	1.73	.12	1.73	3.27	2.12	8.91	2.32	2.04
Iola, Kans.	1.38	.26	1.67	.43	.31	3.03	.05	2.89	2.12	1.35	.13	3.01	1.59
Jacksonville, Fla.	2.19	.82	.32	3.87	1.07	2.76	.23	3.26	1.06	5.38	2.27	.58	.06
Kalispell, Mont.	1.96	.83	1.16	1.58	1.69	.80	.51	.23	1.35	.43	2.39	1.06	.89
Little Rock, Ark.	4.59	.63	3.05	2.36	5.63	2.12	2.07	3.11	8.21	.88	3.89	2.07	2.59
Los Angeles, Calif.	1.48	.35	3.00	.26	1.35	.09	.36	1.85	.46	1.15	.05	1.44	.04
Lynchburg, Va.	2.79	2.72	3.32	2.31	1.66	1.52	.25	1.26	2.48	7.14	1.65	.19	1.98
Madison, Wis.	1.80	.89	1.73	.70	3.12	1.69	.30	1.17	2.25	1.83	1.55	3.14	.68
Marquette, Mich.	2.79	1.25	1.33	2.43	3.79	2.48	1.66	5.29	4.18	2.96	1.97	2.84	1.22
Memphis, Tenn.	4.59	1.02	1.64	2.05	7.05	.86	1.14	2.75	7.75	1.32	4.59	3.50	3.08
Miami, Fla.	2.55	10.67	4.39	7.06	2.54	1.85	.24	.60	3.48	3.73	.50	5.44	.27
Mobile, Ala.	3.74	3.91	3.75	10.23	3.32	2.01	1.43	7.14	4.58	1.68	3.79	3.96	4.33
Modena, Utah.	.60	.29	1.54	------	.54	.07	.16	.30	1.12	.10	.18	1.00	1.02
Nashville, Tenn.	3.55	.05	1.84	2.13	6.75	1.09	.85	1.36	7.89	2.60	5.68	1.80	2.87
New Orleans, La.	3.79	2.50	2.67	4.05	2.29	.88	.34	4.46	7.29	3.03	3.83	3.38	4.04
Norfolk, Va.	2.72	1.96	1.30	2.02	.87	1.34	.59	.77	.20	3.64	1.70	.44	1.95
North Platte, Nebr.	.40	.01	.14	T.	.22	.47	.71	.29	2.93	.04	.04	2.35	.45
Oklahoma City, Okla.	2.25	.39	3.71	.70	1.01	2.35	.80	3.53	2.84	2.04	.33	2.37	2.13
Omaha, Nebr.	1.06	.31	1.15	.03	1.51	.73	.12	2.89	2.84	1.47	.09	2.55	.27
Parkersburg, W. Va.	2.88	1.08	4.62	.80	3.32	1.84	.60	1.85	4.76	1.82	5.56	.97	2.97
Peoria, Ill.	2.04	1.56	2.77	.20	2.29	1.88	.07	3.18	2.91	1.22	3.43	3.67	1.37
Phoenix, Ariz.	.96	------	.83	1.00	.54	------	------	1.92	2.38	T.	.04	1.04	2.34
Pierre, S. Dak.	.43	T.	.11	T.	.84	.08	T.	.45	1.27	.71	.49	3.16	.20
Pittsburgh, Pa.	2.55	.80	2.66	1.35	2.37	1.86	.28	1.79	3.82	2.57	5.06	1.31	2.39
Portland, Oreg.	6.47	5.80	5.39	3.70	11.32	6.31	4.24	4.30	7.44	5.84	10.04	2.94	4.15
Pueblo, Colo.	.37	T.	.11	T.	.15	.20	.02	.06	.64	.28	.72	1.26	.06
Roseburg, Oreg.	4.37	5.16	4.79	2.09	8.54	4.62	6.27	4.73	3.90	6.27	6.46	2.59	1.95
Sacramento, Calif.	2.15	.80	4.58	.47	.83	.49	.25	1.84	.36	3.39	1.09	3.03	.62
St. Louis, Mo.	2.86	1.76	3.12	1.53	1.97	2.53	.78	2.73	2.06	.56	4.43	2.36	1.90
St. Paul, Minn.	1.30	.08	.56	.48	2.64	.92	.06	3.45	2.59	1.08	1.58	3.70	.35
Salt Lake City, Utah.	1.42	1.70	1.21	.37	1.61	.92	1.31	1.77	.81	1.90	1.04	3.33	1.06
San Antonio, Tex.	1.78	1.45	4.55	3.24	.29	2.14	.75	2.53	1.56	2.95	1.16	.98	4.21
San Diego, Calif.	.83	.40	2.23	.86	.73	.05	.08	1.91	.43	.19	.30	.75	.16
San Francisco, Calif.	2.47	1.94	6.22	.70	.92	1.50	.81	5.60	.44	2.70	1.43	3.77	.49
Santa Fe, N. Mex.	.78	.03	1.75	T.	.61	.06	.26	.53	.75	.14	T.	1.13	.52
Scranton, Pa.	2.29	3.75	2.83	1.12	1.37	2.01	.89	1.04	2.76	2.97	5.68	.76	2.26
Seattle, Wash.	5.83	6.82	4.74	5.28	5.66	4.58	2.70	3.81	4.13	4.42	6.60	1.45	2.06
Sheridan, Wyo.	.59	.49	.22	.08	1.08	.90	.12	.58	1.05	.49	1.38	1.16	.36
Shreveport, La.	4.06	.50	2.22	3.61	4.14	2.54	1.14	4.13	4.68	2.15	1.52	2.01	3.12
Springfield, Mo.	2.64	1.85	1.59	.71	2.66	2.88	2.61	3.90	4.49	.64	2.46	4.14	3.47
Thomasville, Ga.	2.64	3.79	.51	1.89	1.67	1.87	.61	5.38	3.40	3.69	3.11	1.10	2.37
Trenton, N. J.	3.43	3.73	2.48	1.62	.96	1.31	1.02	1.85	3.10	2.14	2.83	.62	2.09
Walla Walla, Wash.	2.13	1.77	1.91	1.00	3.04	2.74	1.05	1.02	3.16	2.10	3.91	.95	1.13
Washington, D. C.	2.71	1.84	2.20	2.06	.93	2.11	.53	1.48	2.82	4.51	4.15	.58	2.04
Winnemucca, Nev.	.74	.02	1.37	.02	.38	4.4	.26	.77	.72	1.33	.64	.52	.38

[1] Normals are based on records of 20 or more years of observations.
T=Trace, indicates an amount too small to measure.

TABLE 737.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1912–1923*—Continued.

Station.	Normal for Dec.	December total precipitation.											
		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Amarillo, Tex.	0.53	1.18	2.84	1.17	0.13	0.88	0.04	2.78	0.50	0.64	0.06	0.10	1.11
Atlanta, Ga.	4.54	3.47	3.95	5.31	9.07	3.57	.89	5.46	12.94	4.36	1.79	6.20	5.60
Birmingham, Ala.	4.60	5.80	2.99	4.65	6.11	3.70	1.48	4.14	9.56	9.57	3.23	7.63	5.30
Bismarck, N. Dak.	.62	.40	.28	.34	.39	1.52	.59	1.02	.23	.29	.29	.94	.22
Boise, Idaho	1.72	.83	2.40	.47	1.56	1.29	2.33	.39	1.20	2.43	.88	1.73	.79
Boston, Mass.	3.41	5.36	3.05	3.46	3.94	3.00	2.56	3.21	1.63	3.89	2.35	3.01	4.99
Brownsville, Tex.	1.52	1.51	1.17	2.19	4.30	.69	.32	3.55	1.08	.05	.17	.38	2.86
Buffalo, N. Y.	3.37	2.21	1.37	3.49	4.09	3.37	3.93	2.41	1.96	3.36	.86	3.23	3.00
Canton, N. Y.	3.59	2.55	2.38	2.15	2.49	2.53	1.76	2.79	1.12	5.41	1.60	1.03	2.51
Charleston, S. C.	3.15	3.90	2.59	2.35	2.81	1.47	1.08	3.17	.19	3.00	.51	4.61	3.91
Charlotte, N. C.	3.86	1.34	4.57	6.53	3.53	2.32	1.69	4.35	2.20	4.47	2.66	4.47	3.33
Cheyenne, Wyo.	.31	.63	2.00	.16	.41	.34	.81	.58	1.10	.57	1.31	.44	.26
Chicago, Ill.	2.07	1.08	.45	2.33	1.31	2.58	.88	3.24	.70	3.33	4.63	1.21	1.96
Cincinnati, Ohio.	2.93	2.25	1.28	3.14	4.59	3.60	1.56	4.68	2.56	1.38	4.86	4.00	6.94
Cleveland, Ohio.	2.58	1.33	1.38	1.57	1.75	2.06	1.41	1.58	1.32	1.04	1.75	2.45	4.50
Concordia, Kans.	.48	.12	3.91	1.57	.40	.88	.06	1.87	.24	.58	.01	T.	.17
Des Moines, Iowa.	1.31	.30	1.05	1.28	.65	.65	.88	1.35	.93	1.38	.80	.25	.61
Devils Lake, N. Dak.	.39	.74	.06	.36	.64	.90	.66	.67	.42	.30	.75	.87	.23
Dodge City, Kans.	.56	T.	1.88	.46	.23	.30	.25	4.03	.08	.81	.68	T.	.48
Dubuque, Iowa.	1.72	1.00	.34	1.83	.36	.95	.52	1.90	.63	.96	2.43	.41	.92
Duluth, Minn.	1.22	2.19	.17	.30	.87	.38	1.07	2.03	.30	1.07	.69	.90	.82
El Paso, Tex.	.52	.48	.76	3.94	.43	.32	------	.78	.12	T.	.15	.09	.98
Eureka, Calif.	7.25	5.83	7.58	7.09	5.19	5.47	1.17	4.29	4.33	10.89	4.48	7.62	4.93
Evansville, Ind.	3.83	1.69	1.62	3.62	6.97	4.66	2.12	5.83	1.86	3.86	5.18	5.94	6.43
Fort Worth, Tex.	1.22	1.95	5.42	4.40	1.99	.11	.05	4.08	.44	1.31	.34	.06	4.68
Fresno, Calif.	1.53	.35	1.53	1.76	2.78	1.93	.14	1.46	.89	1.07	3.47	2.20	.24
Galveston, Tex.	3.73	8.61	2.11	4.43	5.69	.79	1.00	3.46	2.02	6.49	2.76	2.56	7.84
Grand Rapids, Mich.	2.54	1.32	.31	1.89	1.22	3.81	.82	4.02	1.19	4.19	4.14	1.40	2.18
Greenville, Mo.	2.79	2.14	4.16	1.50	4.84	4.87	3.62	3.49	1.81	6.93	2.02	2.79	3.32
Havre, Mont.	.63	.11	.02	.66	.77	1.05	2.64	.09	.20	1.01	.25	.53	.69
Indianapolis, Ind.	3.04	1.43	.49	3.37	5.15	2.50	1.10	6.19	.85	3.27	3.27	4.45	5.60
Iola, Kans.	.93	.51	3.98	.82	1.12	.68	.29	3.22	.19	.89	.52	.18	1.14
Jacksonville, Fla.	2.99	2.91	4.49	5.20	3.46	7.47	2.11	2.60	4.61	3.35	1.60	2.54	1.38
Kalispell, Mont.	1.85	.69	.48	.40	2.00	1.70	4.78	.87	.91	1.23	1.16	1.50	1.55
Little Rock, Ark.	4.24	2.22	2.96	6.88	5.37	2.17	1.24	7.95	2.34	6.99	2.58	3.38	4.70
Los Angeles, Calif.	2.90	.03	1.66	3.73	2.52	3.67	.07	1.54	1.99	1.01	7.90	3.09	.80
Lynchburg, Va.	3.27	2.36	2.56	4.68	2.37	2.32	1.70	2.59	1.96	2.34	1.01	3.42	2.72
Madison, Wis.	1.77	1.35	.33	1.76	.64	1.24	.45	2.19	.93	1.33	2.73	1.23	2.12
Marquette, Mich.	2.52	2.42	.94	.85	2.17	3.09	3.86	2.94	1.89	2.27	2.04	1.14	1.52
Memphis, Tenn.	4.38	3.00	1.69	6.35	5.73	3.26	1.33	4.58	2.61	7.11	3.53	5.19	5.35
Miami, Fla.	2.24	1.90	.32	4.43	2.00	.25	1.46	4.11	1.83	1.72	.23	1.19	.46
Mobile, Ala.	4.57	8.16	2.55	4.13	4.16	6.68	1.85	4.92	5.42	6.18	5.54	9.10	6.13
Modena, Utah.	.58	T.	.54	.46	.80	.67	.20	2.01	.40	.25	2.14	.61	.41
Nashville, Tenn.	3.82	5.14	2.45	5.06	0.44	4.29	1.46	4.56	3.28	2.99	1.76	6.29	4.32
New Orleans, La.	4.46	11.21	1.78	3.99	5.07	7.17	2.16	8.46	.83	8.70	3.49	7.01	4.37
Norfolk, Va.	3.49	4.65	1.68	4.69	2.26	3.11	2.62	2.94	1.71	4.91	3.69	2.93	.93
North Platte, Nebr.	.47	.18	3.09	.87	.82	.42	.27	1.31	.32	.60	.14	.01	.39
Oklahoma City, Okla.	1.74	.62	3.38	2.74	.33	1.05	.04	3.04	.12	1.37	.18	.53	2.06
Omaha, Nebr.	.91	.32	2.19	1.38	.34	.65	.48	.72	.69	.81	.14	.07	.58
Parkersburg, W. Va.	2.77	2.62	2.75	4.75	5.24	3.48	.90	4.23	4.07	1.68	4.30	4.13	5.36
Peoria, Ill.	2.37	1.13	.74	1.81	1.66	1.75	.63	2.80	.30	1.87	2.91	1.38	2.21
Phoenix, Ariz.	.59	.83	.27	3.09	2.54	.39	.00	1.16	.13	T.	.87	.28	2.23
Pierre, S. Dak.	.50	.01	.43	.22	.25	.61	.72	1.45	.12	.21	.27	.31	.24
Pittsburgh, Pa.	2.73	2.86	2.60	4.37	3.85	2.01	1.19	3.50	2.88	1.94	2.36	1.98	6.22
Portland, Oreg.	7.34	8.03	3.48	2.56	8.73	3.81	14.23	3.13	4.78	8.32	3.09	9.43	6.25
Pueblo, Colo.	.46	.02	1.35	.59	.35	.23	.03	.92	.59	.38	1.12	T.	.35
Roseburg, Oreg.	5.92	4.16	2.36	1.53	5.50	3.88	3.71	3.26	4.51	7.17	1.52	5.86	4.31
Sacramento, Calif.	3.53	0.23	4.40	3.44	4.42	3.73	.45	1.70	2.22	4.32	3.81	6.12	.94
St. Louis, Mo.	2.23	.42	1.62	2.23	3.34	2.16	.78	2.69	1.22	2.41	2.89	4.98	3.30
St. Paul, Minn.	1.06	1.54	.02	.50	.53	1.21	.57	2.05	.66	.88	.27	.18	.66
Salt Lake City, Utah.	1.33	.80	1.35	.39	1.71	2.64	.38	.52	1.38	1.38	2.29	2.92	.92
San Antonio, Tex.	1.56	2.76	4.47	1.43	1.57	.33	T.	3.61	2.05	.16	.23	.10	4.29
San Diego, Calif.	1.82	.03	.72	2.21	2.60	1.14	T.	1.68	.48	.54	9.26	1.21	1.65
San Francisco, Calif.	4.24	1.30	5.41	5.49	6.42	4.79	.72	2.62	3.21	7.48	6.39	7.77	1.91
Santa Fe, N. Mex.	.76	.79	.77	1.70	.97	.17	.02	1.24	.33	.84	.88	.20	.98
Scranton, Pa.	2.61	4.07	2.16	4.19	4.66	3.26	2.15	2.88	2.52	3.03	1.83	2.31	2.44
Seattle, Wash.	5.29	4.43	2.61	1.39	7.77	4.13	9.21	5.04	4.10	5.68	7.25	7.37	3.31
Sheridan, Wyo.	.60	.21	.12	.14	.84	1.07	1.02	.21	.35	.51	.54	1.02	.82
Shreveport, La.	4.37	4.77	4.28	7.16	3.05	1.65	1.02	3.09	2.08	6.37	1.92	2.59	7.82
Springfield, Mo.	2.67	.26	2.71	2.90	3.21	2.07	1.18	2.97	.44	1.84	1.92	2.07	2.92
Thomasville, Ga.	3.09	4.80	2.51	4.60	1.73	6.59	1.82	8.13	2.56	8.60	2.14	6.33	2.79
Trenton, N. J.	3.16	4.23	2.44	4.64	4.44	4.87	1.55	3.86	2.94	4.25	1.85	3.46	3.94
Walla Walla, Wash.	2.10	.62	.99	.83	1.97	2.68	4.11	1.48	1.92	2.50	1.57	1.83	2.18
Washington, D. C.	3.16	4.12	2.29	4.49	2.80	4.03	1.47	4.65	3.32	3.15	1.95	3.48	2.80
Winnemucca, Nev.	.99	.27	1.84	.57	1.22	.26	.05	.50	.94	1.17	1.34	1.91	1.02

Weather Bureau.

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

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